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ORIGINAL ARTICLES

CHOLECYSTITIS, THE CHOLESTEROL GALL-BLADDER, AND SILENT GALL STONES*

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GALL-BLADDER disease today presents a problem quite different from that of ten years ago, when the pathology was conceived to be definitely classified into acute and subacute cholecystitis, and cholelithiasis. The concentrated study of gall-bladder pathology by chemical and roentgenological methods has demonstrated that these lesions are but phases in a complicated and progressive pathological process. The history of medicine, like history in general, repeats itself, and, as in so many other instances, the clinical entity of a decade ago is today being demonstrated to be but a link in a chain of pathological events, only the most obvious of which were then recognized. It follows, therefore, that the surgical aspects of gall-bladder disease are undergoing, and will continue to undergo, modifications consequent to the newer concepts of the disease itself.

"CHRONIC CHOLECYSTITIS"

Need for more definite pathological classification: Although there have been marked advances in the chemical and roentgenological study of diseases of the gall-bladder, the reports from the pathologist's laboratory still fall short of the clinician's desire. The term "chronic cholecystitis" was and still is used clinically to indicate any non-acute lesion of a gall-bladder not containing stones, which supposedly is producing symptoms. When such a gall-bladder is removed and sent to the pathological laboratory, the report of "pathological gall-bladder" or "chronic cholecystitis" is returned in almost 100 per cent of cases. Unfortunately, however, the patients often continue to suffer from the same chain of symptoms for the relief of which surgery was undertaken. It is evident, therefore, that the diagnosis of chronic cholecystitis cannot be accepted as definitely established if based solely upon pathological evidence, unless pathologists set up more definitely standardized criteria for borderline cases.

Indeed, one of the greatest aids which pathologists could offer the surgeon today would be a more detailed (or carefully subdivided) and more uniformly standardized classification of pathological states possible in the gall-bladder. The contribution which Broders and MacCarty made several years ago by demonstrating in detail the various grades of malignancy has led to marked clinical advances in dealing with such cases. For, by correlating the symptoms of patients with each grade of malignancy, and reviewing the end results of each grade, the surgeon was enabled to modify and adjust his surgical procedures with a much greater degree of accuracy, and to the advantage of the patient. It is the need for some similar classification of the various grades of gall-bladder disease, particularly "chronic cholecystitis," which is at present urgently needed in gall-bladder surgery. Until this is worked out by pathologists and clinicians, we will remain, as today, quite dependent upon the patient's interpretation as to the relief or non-relief of his symptoms. The more vague the symptoms from which the patient is supposedly relieved, following cholecystectomy, the less valuable this criterion becomes.

Gross appearance. The gross appearance of "chronic cholecystitis" seen by us at the operating table is of three types: In the *first*, the walls of the gall-bladder are only slightly thickened and no abnormality is noticeable in the mucosa, but there are pericholecystic adhesions; in the *second*, the gall-bladder walls are definitely pale and thickened; while in the *third*, the exterior of the organ appears normal, often without adhesions or definite thickening of the wall, but the interior presents the well-known "strawberry" mottling.

The first type—the almost normal gall-bladder with pericholecystic adhesions—resembles closely the almost normal appendix with peripendicular adhesions. One cannot safely assume the existence of symptom-producing gall-bladder pathology because of the presence of these adhesions, and expect relief following

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cholecystectomy in a high percentage of cases, if there is no other evidence of disease in the gall-bladder. If this type of gall-bladder does produce symptoms, they are in all probability the result of mechanical interference with the function of the gall-bladder, duodenum and pylorus, due to the adhesions connecting these structures, rather than of infection within the gall-bladder itself.

The second type—the gall-bladder with thickened walls—presents no problems to the operating surgeon. If the gall-bladder wall is definitely thickened, there will in a great majority of cases be definite infection—at least within the walls of the gall-bladder—and cholecystectomy will yield a high percentage of satisfactory results, both in relief of immediate symptoms and in elimination of future difficulties.

The so-called "strawberry gall-bladder," or non-calculous gall-bladder which is producing definite symptoms, is perhaps the most interesting of this group. It is from recent investigations on this type of gall-bladder that our present day conception of cholesterol and its relation to the gall-bladder, and the origin of cholesterol stones, has arisen. Boyd's study of "strawberry" gall-bladders has done much to clarify our knowledge regarding the origin of this type. His histological studies have demonstrated the location of cholesterol in the epithelial cells lining the gall-bladder, together with its dissemination through the walls of the gall-bladder. His further chemical and spectroscopic investigations have demonstrated the probability that the yellow strawberry-like spots in this type of gall-bladder lesion represent a combination of a cholesterol ester with a fatty acid, and are true lipid deposits, correlating thus the disturbance in cholesterol metabolism with the gall-bladder pathology, as seen in this lesion, commonly termed strawberry gall-bladder. There seems little doubt that cholesterol stones are the result of a disturbance of cholesterol metabolism with a resulting increase of cholesterol in the bile, due perhaps to the inability on the part of the gall-bladder wall to permit the passage of cholesterol through it. It is interesting to note in the pathological sections that high grades of inflammation play but a minor part in this disturbance of cholesterol metabolism, and that the cholesterol deposits of the so called "strawberry" type tend less and less to appear, as the inflammatory process in the gall-bladder wall increases. The frequency with which polypoid masses of gall-bladder mucosa laden with cholesterol deposits may be demonstrated in the wall of the so-called "strawberry" gall-bladder leaves little doubt but that these masses, an example of which is shown (Figure 1), separate from the wall of the gall-bladder to float free within the viscous, and are the nuclei upon which are developed cholesterol stones in

a gall-bladder whose bile is over-rich in cholesterolin crystals.

This is the type of gall-bladder which often shows nothing abnormal on inspection to the surgeon when the gall-bladder is exposed, but which produces symptoms which are relievable by cholecystectomy. We wish particularly that this type of gall-bladder be recalled when we speak later of not removing it because of its normal appearance when the operation is done for possible gall-bladder symptoms.

The secondary evidence of chronic cholecystitis as formerly furnished by the radiological laboratory has received from cholecystography an excellent control. It has been our experience that many of the dense shadows which without the Graham test would have been diagnosed as pathological gall-bladders, prove to be phantom gall-bladders only.

In considering the classification of *acute* and *subacute cholecystitis*, the discussion must necessarily be as brief as in a discussion of acute and subacute appendicitis, due to the similarity in symptomatology and clinical findings, and the obvious need for surgical interference. It must be at once evident that acute and subacute lesions of the gall-bladder almost invariably require drainage or removal of the organ.

We come now to the discussion of *cholelithiasis*. Generally speaking, there doubtless exist two types of gall-stones: 1. the pure cholesterol stone (Figure 2), frequently producing few symptoms, and often without the classical syndrome; and 2. the calcium stone (Figure 3), so often associated with infection, and, in a much higher percentage of cases than the cholesterol stone, with definite symptomatology.

In recent years, much light has been thrown on the origin of cholesterol stones from altered cholesterol metabolism; but this cannot be said of the origin of the calcium stone associated with gall-bladder infection.

It must be remembered that many cholesterol stones, although not originally associated with infection, and causing few symptoms, not uncommonly have superimposed calcium deposits together with superimposed infection and a definite train of gall-bladder symptoms, and that the symptoms of cholelithiasis are those of mechanical obstruction always eventually associated with infection, those of infection always associated with at least some obstruction or the coincident association of both obstruction and infection.

The surgical aspects of gall-bladder disease concern all three of the classifications of gall-bladder disease which we have discussed.

The treatment of *chronic cholecystitis* involves considerations quite different from those for frank gall-stone colic, and is open to possibilities of error very similar to those in the much over-operated condition of chronic appendicitis.



ILLUSTRATION I. The Strawberry or Cholesterol Gall Bladder. The white specks upon the mucosal walls are the deposits of cholesterol as shown in the photomicrographs in Illustration V.



ILLUSTRATION II. A Cholesterol Gall Bladder with early cholesterol stones. There is little doubt but that the nuclei of these stones are cholesterol laden polyp like bits of gall bladder mucosa which have separated from the wall of the gall bladder. See Illustration



ILLUSTRATION III. A Gall Bladder showing the early calcium bilirubin stones. Note the absence of cholesterol deposits in the gall bladder wall as compared with Illustrations I and II.



ILLUSTRATION IV. A Gall Bladder showing late calcium bilirubin stones in a gall bladder showing marked and long standing chronic cholecystitis. Note the pallor and loss of rugae, the effect of prolonged chronic inflammation in the mucosa as compared with Illustrations I and II.

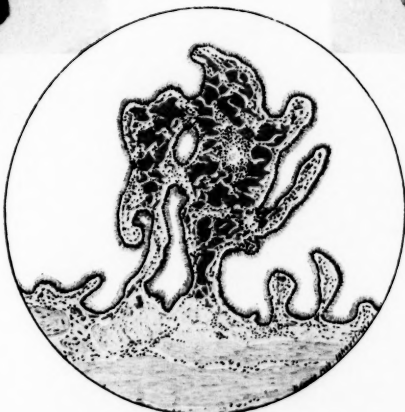


ILLUSTRATION V. A Colored photomicrographic section showing the cholesterol laden polypoid mucosa of the strawberry gall bladder, stained with Sudamen III to demonstrate the cholesterol deposit.

It is necessary, we believe, to employ every possible diagnostic measure in attempting to determine definitely the presence of chronic cholecystitis. It is also necessary to eliminate so far as is feasible the possibility of other factors entering into the production of symptoms suggesting the possibility of these lesions. The very vagueness of the symptoms of necessity often makes the diagnosis doubtful. Unless there is definite evidence of gall-bladder pathology, such as has been afforded in recent years by chole-

In the diagnosis of this lesion we have not found the estimation of bilirubin or the determination of blood cholesterol to be of value. Nor have these two measures been of any real value to us in the diagnosis of cholelithiasis.

We have not been able to demonstrate definite cholesterolemia in proven cases of cholelithiasis, and bilirubin determinations have been of value almost solely as a means of checking the improvement in demonstrable jaundice.

We have found chronic cholecystitis to be as-



cystography—namely, failure of the gall-bladder to fill—or demonstration of adhesions of the filled gall-bladder to the duodenum by the visualization of the barium-filled duodenum adhering to the dye-filled gall-bladder, together with clinical evidence of the disease, the wisdom of surgical intervention is doubtful. We still feel that the standards for filling and emptying time, with the Graham test, are not sufficiently well established to make this phase of the test an accurate criterion of chronic cholecystitis.

The diagnosis of chronic cholecystitis, by cholecystography in our opinion, should be arrived at only when cholecystographic findings may be quite definitely correlated with clinical symptoms. It is of the utmost importance here that every effort should be made by means of investigation and medical treatment to eliminate other disorders which may produce symptoms simulating those of chronic cholecystitis, such as functional disturbances of the stomach and colon.

sociated with gastric achylia in about 40 per cent of the cases, the possible explanation of which, as has been frequently stated, is the lack of bactericidal action of hydrochloric acid in the gastric and duodenal contents.

The indications for cholecystectomy in cases of chronic cholecystitis in our clinic are as follows: 1. in the presence of symptoms, such as nausea, gaseous eructations, abdominal distention, headache, and indefinite abdominal pain; 2. failure of investigation and medical measures to demonstrate other lesions which might cause these symptoms; 3. persistence of the symptoms in spite of medical treatment; 4. suspicious X-Ray evidence. Under these conditions, cholecystectomy in our hands has yielded satisfactory results.

In discussing this subject, we have several times expressed our position regarding the non-removal of the normal appearing gall-bladder at the time of exploration. If it be accepted, as has been our experience, that a gall-bladder may,

at operation, appear quite normal so far as its outside coat and palpation go, and yet on opening reveal definite cholesterol deposits in its wall, we believe that if the operation is undertaken only after careful elimination of other sources of symptoms, if one allows the gall-bladder to remain merely because of its normal external appearance, one cannot be certain that there are not cholesterol masses within its walls. If, after its non-removal and closure of the abdomen the same chain of symptoms persist, one cannot be sure that these symptoms are not still due to a chronic cholecystitis, or to a cholesterol gall-bladder. We have, therefore, assumed the position that, irrespective of the normal appearance of the external walls of the gall-bladder, if after adequate investigation the operation has been undertaken for a chain of symptoms unrelieved following treatment, the gall-bladder shall be removed.

As Alvarez has stated, there must exist today thousands of patients who will have gall-stones removed ten, twenty, or thirty years from now. Many of these patients, of necessity, are now subject to pathological processes which will later result in the production of gall-stones and the symptoms consequent to them. Many are already producing symptoms of varying degrees. In those cases cholecystectomy would not only eliminate the symptoms, but would in all likelihood protect the individual against later possibilities of cirrhosis, cholangitis, pancreatitis and diabetes. We therefore advise cholecystectomy for demonstrable cholecystitis not relieved by medical measures.

We realize fully that the above stated position is erected upon a structure the foundation of which is, first, painstaking investigation and, second, the preliminary employment of medical measures. We cannot leave this far from settled situation without stressing that any skimping of these fundamental factors results in a collapse of the entire structure of the position.

As to the treatment and management of *acute and subacute cholecystitis*: cholecystectomy at the time when the gall-bladder contains infected material and its walls are thick and edematous is undesirable if safely avoidable. On the other hand, it is not possible to lay down any definite rule, such as advising delay, until the inflammatory reaction has subsided.

Since the cystic duct in this condition will often be closed, the gall-bladder dilated, its blood supply interfered with, and gangrene of the gall-bladder imminent, the decision for or against immediate or delayed cholecystectomy must be settled in each individual case on the basis of surgical judgment as to whether or not subsidence of the immediate acute inflammatory reaction is in process.

Removal of the gall-bladder in the presence of edema, thickening and reaction of the structures at the junction of the cystic, common and

hepatic duct cannot be accomplished with the same degree of exactness and with the same dryness and peritonealization of cut surfaces and lack of adhesions postoperatively as in those soft pliable and non-inflamed gall-bladders without grossly infected walls and thickened periductal tissue.

It has been established as a definite maxim in our Clinic that no gall-bladder shall be removed, particularly of the inflammatory type, except when the anatomy of the cystic artery, common duct and hepatic and cystic duct is under direct exposure, as is always possible with the proper employment of warm wet strips and adequate retraction. This insures against troublesome hemorrhages from a torn cystic artery and later strictures due to injury to the common and hepatic duct.

We feel very strongly, as does nearly every surgeon today, that removal of the gall-bladder is beyond any doubt superior to cholecystostomy. Yet it must be borne in mind definitely that in very gangrenous gall-bladders, particularly in obese individuals, it shows far greater wisdom to drain first and remove later, than to hazard the patient's life by an immediate cholecystectomy with the possible rupture and dissemination of the infected contents of the gall-bladder. We have always been firm adherents of the two-stage operation when it is possible to apply it to cases in which a one-stage operation is dangerous. We are firmly convinced that many patients succumb annually under one-stage operations of all types, which the operator undertook against his better judgment, because of an unduly sympathetic desire to save the patient the inconvenience and discomfort of another operative procedure.

CHOLELITHIASIS

There are but few debatable points in the surgical aspects of cholelithiasis. Silent gall-stones have often been mentioned in the discussions of past years and no doubt gall-stones do actually exist for many years without producing symptoms of sufficient severity to occasion investigation as to their probable origin. It has been our experience, however, that were one to limit surgical intervention solely to patients who suffer from true biliary colic, many patients with gall-stones would be denied relief of symptoms of distressing if not major magnitude.

It is in the discovery of the so-called "silent gall-stone" that cholecystography has its greatest value for us. The radiolucent shadow within the visualized gall-bladder, when it can be differentiated from overlying intestinal gas, indicates the cholesterol stone, and it has been demonstrated to our satisfaction that the removal of the gall-bladder containing such stones discovered by this method has relieved symptoms of colitis which has been attributed to a purely colonic disease.

Reasoning backward from a proven premise, such as gall-stones demonstrated and removed at operation, is of course subject to great possibilities of error, particularly on the part of the patient as he attempts to co-relate these with past symptoms. Nevertheless, we have observed a great many patients with symptoms quite similar to the indefinite ones of chronic cholecystitis in whom gall-stones were demonstrated, and relief afforded by removal of the stones and gall-bladder. In but a few of the cases in which stones have been demonstrated, despite the absence of major symptoms, have we failed to elicit histories of digestive disturbances and abdominal distress which could with fairness be attributed to the stone-containing gall-bladder, particularly as cholecystectomy was followed by relief of these symptoms.

We hold strongly to our oft-repeated opinion that there are few, if any, harmless gall-stones. Gall-stones may exist which, owing to various circumstances, are better not removed; but, barring unusual circumstances, we believe every patient with gall-stones is better off once these have been successfully removed. The proneness of gall-stones to produce symptoms late in life, when operations are badly borne; the frequent association of common duct stones with cholelithiasis of long standing, and the increased mortality in such cases; the fact that in all probability gall-stones rarely exist for any period of years without coincident infection; and the high percentage of cases of gall-stones associated with diabetes constitute weighty arguments in favor of removal of gall-stones whenever they are demonstrable.

For the same reasons, we are not in sympathy with the frequently expressed European viewpoint, evidenced by the medical or spa treatment of patients who are known to be the hosts of a gall-stone or gall-stones. We feel sure that the total eventual mortality for a given period of years of unoperated cases of cholelithiasis will be greater than the immediate and remote mor-

tality in the operative cases for an equal period.

Sequelae of neglected gall-stones. Common duct stones, pancreatitis, cholangitis, pericholecystic adhesions interfering with pyloric and duodenal function, and undoubted intensification of pre-existing diabetes are some of the prices which must be paid for the failure to discover and remove gall-stones at an early date, or for procrastination in removal of stones already demonstrated.

Since there are men in every community today who are well qualified to handle the surgical problems of cholelithiasis, it may be said without prejudice that the surgery of the gall-bladder and ducts is sufficiently difficult to tax the technical skill of the most resourceful and experienced operator—and should be in the hands of these men.

The mere removal of a gall-bladder becomes but a trivial part of the surgical treatment of cholelithiasis, if at the time of this removal a stone in the common duct be over-looked and unremoved. Likewise, of what ultimate value is the removal of a stone-filled gall-bladder if in the course of its excision the common duct is so injured that stricture subsequently develops? Furthermore, a cholecystectomy which is followed by a mass of adhesions between the duodenum, pylorus and bed of the gall-bladder will result in post-operative symptoms which are almost as severe and distressing as were the symptoms of cholelithiasis for which the original operation was done.

The best results in gall-bladder surgery are observed in patients whose operation was not delayed until the more or less permanent effects of long standing infection and fibrosis developed; in patients in whom the gall-bladder was removed with as little trauma and as complete peritonealization as possible of the open surfaces left by its removal; and in the later stages of the disease, in patients whose common ducts have been adequately exposed, freed from any stones or infection that they may contain, and drained for a considerable period.

THE OPENING EXERCISES OF THE PALMER MEMORIAL HOSPITAL

THE new Palmer Memorial Hospital, allied with the New England Deaconess Hospital, was formally opened Wednesday, April twentieth. This modern fireproof building with a capacity of seventy-five beds has been planned and equipped throughout primarily for the care of the cancer patient. It is the largest institution in New England devoted to the care and treatment of cancer sufferers. This hospital together with the new Nurses' Home now under construction and the Deaconess Hospital give the New England Deaconess Association a splendid group of buildings for the care of the sick.

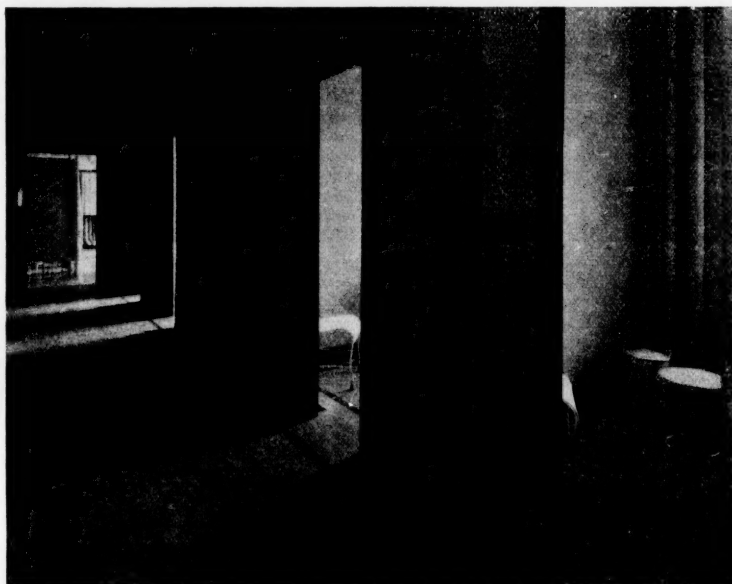
Seven years ago the Palmer Memorial Hospital was opened in the old Cullis Consumptives'

Home on Blue Hill Avenue with a capacity of thirty-nine beds. Only incurable cases were accepted in this building and no treatment was attempted. The new hospital has ample provision for surgery, for deep and superficial X-ray therapy and for the use of radium. In addition an extensive out-patient department is provided. This out-patient department has ten private examining rooms and in addition nine cubicles used in connection with radium treatment. So far as possible only those referred by their family physician will be admitted to this clinic. The clinic aims to provide expert opinion on tumors for the physician and skilled treatment for the patient.

AN AIRPLANE VIEW OF THE NEW ENGLAND DEACONESS HOSPITAL, THE PALMER MEMORIAL HOSPITAL, THE NURSES' HOME, AND SURROUNDING BUILDINGS



1—The New England Deaconess Hospital. 2—The Palmer Memorial. 3—The Nurses' Home.



Corridor in the Out-Patient Department



The Mortuary

There is one striking difference between the Palmer Memorial Hospital and most hospitals for the chronic sick. The equipment is as complete and elaborate as that in any general hospital for acute cases, and in addition has special features of value in treating and caring for the cancer case. Thus it is not merely to be a refuge for the chronic sick, but it is to wage an aggressive campaign, armed with the best weapons known to medical science, against chronic disease, and particularly cancer.

The new hospital is connected by a tunnel with the Deaconess Hospital and the Nurses' Home. In the basement are the kitchen, utility and storage rooms, a locker room for nurses, the X-ray machine room and a large record room. On the ground floor to the left of the entrance lobby is the out-patient department and the record room, to the right are the X-ray rooms and the pathological laboratories. A feature of the X-ray equipment is the deep therapy machine of the kenotron type, practically noiseless in operation. The mortuary is particularly adapted for the performance of post mortem examinations, and no expense has been spared to make it well suited for its purpose.

On the first floor are the administrative offices and a number of rooms for patients, and in addition the one large ward of the hospital containing seven beds. Practically every room has a toilet and everything has been planned to make the stay of the patients as pleasant as possible including a radio head-set for every bed. The southwest corner of every floor contains a

solarium with an attractive view out over the Parkway and the hills of Brookline. The second and third floors are made up of private rooms and rooms containing two and three beds. The fourth floor in addition to the rooms for patients contains the operating suite. There are two major operating rooms as well as a smaller room for minor operations. Between the two major operating rooms is a small pathological laboratory fully equipped for frozen section diagnosis so that no time is lost in establishing the nature of excised tissue. The roof has been closed in and a large sun room has been made which can also be used as a hall seating about three hundred persons.

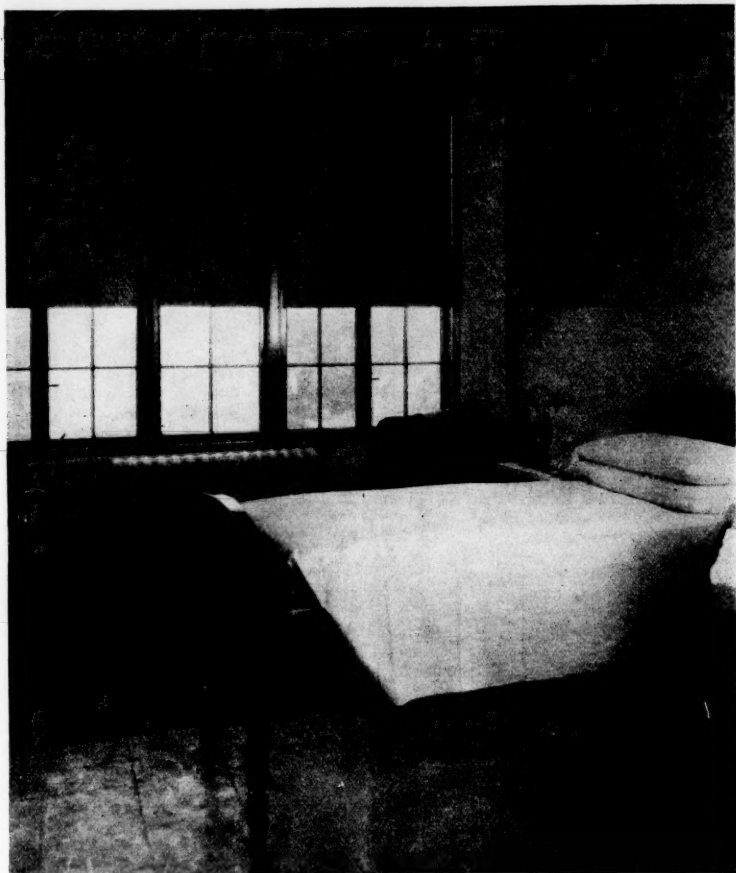
The Staff of the Hospital consists of:

Permanent Staff: Daniel Fiske Jones, M.D., Surgeon; Elliott P. Joslin, M.D., Physician; Shields Warren, M.D., Pathologist.

Consultants: John D. Camp, M.D., Therapeutic Roentgenology; D. Crosby Greene, M.D., Laryngology; Arthur M. Greenwood, M.D., Dermatology; George A. Leland, Jr., M.D., Surgery in charge of Gynecology; L. S. McKittrick, M.D., Surgery; L. B. Morrison, M.D., Roentgenology; Wyman Richardson, M.D., Medicine; George Gilbert Smith, M.D., Urology.

Associate Staff: F. Gorham Brigham, M.D.; H. M. Clute, M.D.; Burton E. Hamilton, M.D.; Frank H. Lahey, M.D.; Howard F. Root, M.D.

At the opening exercises of the hospital Mr. William T. Rich, President of the New England Deaconess Association, presided and Dr. Daniel Fiske Jones, Chairman of the Staff, in-



A Private Room

roduced the speakers, Dr. George H. Bigelow, State Commissioner of Public Health, and Dr. Robert B. Greenough, Director of the Huntington Memorial Hospital. The addresses of Dr. Bigelow and Dr. Greenough are given below.

**"THE CANCER PROBLEM IN
MASSACHUSETTS"**

AN ABSTRACT OF THE ADDRESS BY

GEORGE H. BIGELOW, M.D.

State Commissioner of Public Health

MASSACHUSETTS has a large cancer problem, perhaps relatively the largest of any state in the Union. Because of the considerable amount

still unknown in regard to this disease, physicians and health officers have been more hesitant than in tuberculosis, for instance, to come forward with a broad specific program of attack since such a program might in view of further knowledge prove unsound in certain particulars. With the increasing volume of cancer the public has begun to demand an extension of resources to combat this disease, and has shown a certain impatience with the hesitancy of the profession. As the effectiveness of prevention of certain diseases has increased and become popularized, as in tuberculosis, typhoid fever, smallpox or diphtheria, for example, there has developed a demand for the extension of prevention to other diseases, sometimes in advance of knowledge.

There is a double danger here. On the one hand, conservatism may become obstructionism, and thoughtful, well-considered progress may lapse into immobility as is the danger with the venereal diseases, for instance. On the other hand, popular clamor may goad to a false step and woe unto him responsible, at the hands of the anti-medical brethren. This popular demand in regard to cancer was naturally reflected in the Legislature and resulted after a study of cancer in Massachusetts in what may be described as a politico-scientific program passed by the Legislature a year ago.

There are two distinct phases to any cancer program. First, the extending of resources for early recognition of the disease when there is hope of cure. This must be supplemented obviously by a concomitant extension of therapeutic resources so that when necessary there shall be no delay in recourse to surgery, X-ray or radium, as the case may be. But if we stop here we have obviously constructed a lifeless thing. As these resources are made available we must endlessly tell the public of them and of their proper use. Education without these resources would be as vacuous as chewing a jelly-fish, but education plus these resources gives promise of an effective reduction of our cancer death rate. This part of the cancer program is the more hopeful, far-reaching and economical though its instant results may seem slight.

The second phase has to do with the hospitalization of cancer cases which are too advanced for cure and in which merely custodial or perhaps alleviatory care is possible. God forbid that I should appear to belittle the crushing demand of the tortured hopelessly cancerous body without adequate home or funds to obtain all that knowledge now has to offer in minimizing the anguish and offense of the last days of such a case. These problems are the most baffling perhaps that the social service department of a general hospital now has to meet. If you have one of these cases in your immediate family or among your close friends, you cannot tolerate a dispassionate discussion of the economic aspects of extending terminal care to these cases. New beds (and some three hundred are needed) can be filled at once by these tragedies and the money invested starts immediate dividends in the humanities. But with all our Nordic boasting we are an emotional rather than a rational people, both in and out of our legislative halls. To give only this second part of the program would be to whiten the sepulchre which must continue to be constantly enlarged. The two parts must go and are going hand in hand.

What part, then, does this new memorial hospital play in the scheme of things? It bears the name of one who went through the valley of anguish from this disease and whose wish was that out of her sufferings might come some alle-

vation to those similarly afflicted. He who watched over her has brought this thing to pass. First, last and always, then, this hospital is dedicated to the lessening of suffering in cases of hopeless cancer. These beds will reduce the three hundred needed throughout the State for this type of case. But in the wisdom of those directing this hospital it will do far more. It will free beds in other institutions more promptly in order that they may more readily serve the hopeful case. It will through the opportunities for study advance our knowledge of this hideous disease. It will act as a stimulus to improve the general level of service to this disease throughout the State. It will help to lift somewhat the cloud of fear and misinformation about cancer which is impossible in facing any problem squarely. The Palmer Memorial Hospital, then, has a very large place in the cancer program in Massachusetts.

THE SPECIAL CANCER HOSPITAL

BY ROBERT B. GREENOUGH, M.D., F.A.C.S.

Mr. Chairman, Ladies and Gentlemen:

The opening of the Palmer Memorial Hospital, constructed and equipped as it is in the most complete manner for the efficient treatment of cancer patients, makes a most important addition to the resources of this great medical center, which was the vision of President Eliot, Dr. J. Collins Warren, and Dr. Henry P. Bowditch when the Harvard Medical School was transplanted from Boylston Street to Longwood Avenue.

Its significance is far greater than this, however, for it marks also a definite forward step in the policy of scientific medicine in dealing with this extraordinary and baffling disease, cancer. We may well pause for a moment to consider the opportunities and the responsibilities of a special hospital for cancer patients; and to observe how well the Palmer Memorial Hospital is organized to meet them.

The past twenty-five years have seen an amazing development of the special departments or branches of medicine, not only in the medical schools and laboratories, but in the hospitals as well. As human knowledge increases, and adds to the resources of medicine, there comes a time when a single mind is quite incapable of receiving and making use of all of this knowledge and

a part must be refused or rejected as outside of the field of greatest interest to the individual. In this way each individual's interest may be narrowed, but accomplishment is increased and the frontiers of knowledge are slowly pushed further and further into the unexplored territory of the unknown.

By restricting his field in most of the so-called specialties, a single individual may readily make himself master of the knowledge necessary for the advance of his special line of work. Cancer is so great a subject, however, and involves so many of the special branches of medicine and of laboratory science as well, that no one person however competent can do justice to the whole, and it is only in a group of individuals, trained each in his own line, but united in their common interest and purpose in the study of this protean disease, that we obtain an efficient organization for dealing with the cancer problem. It is perhaps for this reason more than any other, that obstetrics, orthopedics, genito-urinary surgery and tuberculosis were split apart as specialties and placed in the group with ophthalmology and otology, long before cancer reached the proportions of a separate branch of medicine. As a fact practically all of the material equipment, and all of the medical and surgical skill of a modern general hospital are necessary for the efficient investigation and treatment of cancer cases; and it is largely because of these resources already available in the Deaconess Hospital that the Palmer Memorial presents so strong an organization and is so well qualified to undertake its work.

In order to estimate correctly the importance of the Palmer Memorial to the community, as well as to medical science, we must consider the conditions as they exist today in Massachusetts in regard to the treatment of cancer. We have about 5,000 cancer deaths a year, and we estimate that there must be from 10,000 to 12,000 patients suffering from cancer, to be treated every year. The State Health Department estimates that about 300 more hospital beds are needed for advanced and terminal cases, and it is quite evident that greater facilities in the way of diagnosis and treatment are necessary for the early and doubtful cases in this community.

In an institution like the Massachusetts General Hospital; (and it is in our general hospitals and in private practice that the majority of cancer patients now obtain their first and most important treatment) a review of the results obtained is most disheartening. Of all the cases of cancer of the breast admitted to the wards of the Massachusetts General Hospital only about 15% may expect to be cured of their disease and 10% would be a fair estimate of the cures of cancer of the cervix of the uterus. If we contrast with these figures the results of treatment of *early* and *favorable* cases of cancer of the

breast and cancer of the cervix, we find that a percentage of cure as high as 70% for breast cases, and 50% for cervix cases, is readily obtainable in these same hospitals, with the methods of surgery and radiation available at the present time.

We may thus confidently assert that the treatment of cancer in Massachusetts as in other states and other countries, at least so far as the more accessible types of the disease are concerned, could be greatly improved; and probably from three to five times as many cases could be cured of the disease as are now cured, if only the existing knowledge of the disease and the existing resources in the way of treatment could everywhere be made available to the patient in the early stages of the disease.

There are many reasons for this lack of success in the treatment of cancer at the present time. First and foremost can be placed our lack of knowledge as to the actual causes of the disease. There is little evidence to support the view that cancer is caused by any single parasite. None of the phenomena of immunity or contagion which are evidenced in diseases of parasitic origin can be demonstrated in cancer. Heredity may indeed be a factor in the predisposition of the individual, but its influence appears to be over-shadowed completely by external conditions of many different varieties which operate locally over a long period of time, and are accompanied and manifested by progressive local growth of the cells of the individual.

This lack of knowledge of the cause or causes of cancer, and especially the fact that no specific parasite has yet been discovered which can be shown to be of causative significance, deprives us of the assistance of the specific serological methods of diagnosis and treatment which have been developed for the infectious diseases in the past fifteen years. None of the many vaccines, serums or antitoxins which have been exploited from time to time for the treatment of cancer, greatly as they have been desired, and readily as they would be welcomed by medical science, if satisfactory evidence in support of their value could be presented; has as yet obtained the faith and support of the scientific world. With some possible hope of the development of chemical methods of treatment which are as yet only in the experimental stage, the chief reliance of the medical world today for the treatment of cancer rests upon surgery and radiation; and for the early diagnosis of the disease, the experience and observation of the trained physician, supplemented as he must always be by the pathologist, is our only hope.

Under these conditions the recognition of cancer in its early local stages becomes a matter of imperative necessity; and indeed even if we *were* possessed of a specific and effective antitoxin treatment such as we have today in diphtheria, the early diagnosis would still be a first essential to the successful application of such a method.

The advanced case of diphtheria succumbs in spite of antitoxin and the advanced case of cancer must be expected to die in spite of any method treatment we can administer. Death may be delayed and many of the patient's distressing symptoms may be relieved or diminished, but the ultimate result will be the same.

Cancer is commonly regarded by the laity, and by the medical profession as well, as a chronic disease. Its course from start to finish is indeed generally a long one, but in its earlier stages it often progresses with great rapidity from the local to the more widely disseminated stage. It is for this reason of course that the early diagnosis is of such vital importance to the patient. In a series of cases of cancer of the cervix at the Huntington Hospital, Dr. Leland has been able to show that each month's delay in the application of treatment in early cases reduces the patient's chances of cure by 16%. If we reduce this to weeks and say that each week's delay means 4% less chance of cure, we see that we are dealing at this stage with a disease that is so rapid in its progress that, far from being a chronic condition, it must be regarded as one of the most acute diseases with which we have to deal.

The delay from the first symptom to the application of treatment in a recent series of cases of cancer of the breast at the Massachusetts General Hospital was found to average seven and one-half months. This average delay was made up of six months from onset of symptoms to first medical consultation, two weeks' delay on the part of the physician in advising radical treatment or seeking consultation, and one month's delay on the part of the patient in accepting this advice.

Taken in connection with Dr. Leland's figures on cancer of the cervix we can see that such a period of delay as seven and one-half months is far too long for us to expect to obtain the best results, and much yet remains to be done to reduce this period of delay from months to weeks, and if possible from weeks to days, before we can truly say that we are using our present resources to the best advantage.

It is perhaps in this educational work that the Palmer Memorial promises to serve its most useful purpose. The education of the public is being carried on by a number of different organizations, and a real beginning has been made. The American Society for the Control of Cancer, the State Department of Health of Massachusetts, the Federal Public Health Service, the Red Cross, the Insurance Companies, the Life Extension Institutes and other organizations for periodic health examination, all are united in the purpose of educating the public to seek competent medical advice immediately for symptoms that are in any way even suggestive of cancer. In this educational movement also, the hospitals, and especially those hospitals and clinics especially devoted to cancer, play a most

important part by giving correct information and advice to patients and to the friends of patients at a time when their minds are most receptive, namely when the suspicion of cancer has been roused in the individual case. In this respect of course the Palmer Memorial will play its part, and by reason of its size and of its personnel and material equipment it will be an important part, and will touch the minds and the lives of a large part of the community.

It is in its relation with the medical profession, however, that a clinic such as the Palmer Memorial will be of the greatest educational value. This is the field to which its major efforts are to be directed, and here again the opportunity to "strike when the iron is hot" will be afforded; when the physician brings or sends his patient to the Clinic for expert advice and treatment. Whether the case is an early one or a late one, the physician's observation of the methods employed in establishing a diagnosis and of the details of the treatment given, will increase his knowledge of early and suspicious symptoms and stimulate his ambition to help his subsequent patients by establishing a diagnosis of cancer in the early curable stages of the disease. The physician's observation of the details of treatment, and the study of the reports of end-results of treatment which form a very important part of the service to the community of a special cancer hospital, will do much to raise the standards of treatment, whether by surgery or by radiation both of which are employed in private practice. There is no doubt that these standards are at present not so high as they should be. At least 30% of the cases of cancer of the Breast which come to the Huntington Hospital after operation elsewhere, have had performed an operation far less extensive than that generally recognized in the best surgical clinics as the standard "complete" operation for breast cancer, and much the same can be said for other forms of cancer, which have been treated by operation or by X-ray and especially by radium.

It is not to be expected that special hospitals devoted to cancer can be maintained in sufficient numbers to deal with all of the cases of cancer in any community like the State of Massachusetts; and it is doubtful if such a method of dealing with the cancer problem would be an economical one. It is the educational influence exerted by such institutions that is of the greatest importance to the community, greater perhaps than is the improved service given to the limited number of patients within its wall. With the present prevalence of the disease, the majority of cancer cases must still receive treatment in our general hospitals, and it is here that the educational influence upon the medical profession is of great significance. Already the State Department of Health stands committed to the policy of promoting special cancer clinics throughout the State in existing general hospi-

tals which have the professional and material equipment to maintain them, and it is from the special cancer hospitals, such as the Palmer Memorial, that the standards and the methods of treatment, as well as the training of the professional staffs for these special clinics, will be obtained.

With this consideration of the more practical aspects of the cancer problem we may now devote our attention to the opportunities for investigation provided in a special cancer hospital. So long as the cause or causes of cancer are not known, investigation of this problem will intrigue mankind. The numerous prizes that have been offered for a solution of this problem indicate the vital interest humanity holds in this disease. For the past twenty-five years there has been a continuous and more or less co-ordinated effort not alone in the institutions endowed and supported for cancer research, but in countless general hospitals and laboratories all over the world, to advance our knowledge of the essential characteristics of this disease. Many facts of great significance have resulted from these investigations and our knowledge of cancer has been greatly increased, but we must admit that the essential fact, the reason why cancer cells grow in the uncontrolled fashion in which they do grow, has not been determined. It is a curious fact that with all the increase of knowledge in the different branches of science, the factors which control the normal growth of cells, whether those of plants or animals should remain so long unknown to us. It is, after all, the mystery of life and it is the essential root of the cancer problem. Each fact contributed to our knowledge of this subject brings us one step nearer to the solution of the cause of cancer. Whether it be from the laboratories of biology, or physiology, or chemistry, or physics, or whether it come from the pathological laboratory or the clinic, each advance in knowledge must be assimilated and co-ordinated with the rest, to build the foundation for our better understanding of this great mystery.

The Palmer Memorial plans to take advantage of its opportunities in this respect. The laboratories are so arranged as to work in closest co-operation with the clinic and while pathology is the department first organized as the most essential branch of science for such an institution, research work along other lines can be carried on as the occasion offers.

At the present moment certain facts stand out pre-eminently in relation to the nature and the causes of cancer. As a result of the long continued exposure of the cells of the human or animal body to deleterious agents, whether physical, chemical or organic, changes in the manner of growth of those cells take place which can be described as an increase of rapidity of growth, together with a loss or modification of their functional activity. These changes proceed slowly and progressively; and are recog-

nized in man, in many situations, as the so-called pre-cancerous diseases which experience has shown may readily lead to cancer, if not successfully removed or relieved by therapeutic measures. During this stage of the process removal of the cause, (as in the case of exposure to chemical agents,) may readily bring about a cure.

After a long period of this pre-cancerous stage of growth, the disease acquires a momentum of its own, as it were, which carries it beyond the pre-cancerous stage and we have true cancer. The rapidity of growth of the cells increases, their functional differentiation diminishes, they begin to infiltrate and invade the surrounding tissues, in places where cells of their character and origin are not normally to be expected. When this has occurred removal of the chemical or other agent no longer permits a return to the normal. The disease has reached the stage of independent existence; it is cancer, and it does not recover spontaneously, but extends, both in the vicinity of its original location, and to more distant parts, until the patient dies. During all this period, however, on both sides of the arbitrary line of infiltrative growth which is the pathological criterion for the positive diagnosis of cancer, these two characteristics of the cancer cell go hand in hand; the increased rapidity of growth and the diminished differentiation for function. So constant is this relation that a fairly accurate forecast can be made of the rapidity of growth of a tumor and of the chances of cure of the individual case by the mere microscopic study of the sections of the original tumor.

From these facts it is not unreasonable to deduce that whatever the exciting agent may be, it is the increased activity of growth of the cancer cell which is the characteristic feature of the process. There is reason to believe that minute amounts of chemical substances; whether produced within the body, (as by the internal secretion of ductless glands, or hormones, or derived from without, like vitamins,) play a part in the normal growth-control of certain of the body tissues; and just at the present time the investigation of the role these agents may exert in the growth of cancer occupies an important place in the cancer research.

It has been discovered also that in certain respects the metabolism of the cancer cell differs from that of the normal tissues, especially in the ability to convert sugar into lactic acid, and whether this fact is of significance in determining the over-growth of cancer cells, or whether it be merely a phenomenon resulting from this over-active growth, the fact that a difference exists offers a line of investigation which is being followed in many laboratories. It is not unreasonable therefore to state that the prospect was never brighter than it is today for the advance of our knowledge in respect to cancer, and

in these investigations the laboratories of the Palmer Memorial, under Dr. Shields Warren, are equipped to play their part.

In addition to the research work which has to be carried on in the laboratory, many opportunities exist for investigation of clinical problems of more immediate importance to the cancer patient of the present day.

The surgical treatment of cancer in its more common situations has been brought to a stage of approximate standardization. This is based, in each organ, upon the known facts in regard to the extension of the disease, and upon the anatomical limitations to operative removal. Even these standards, however, can be improved in many ways. The recent introduction of electro-coagulation and cauterization methods, have already given opportunity for more effective surgery in cancer of certain regions of the body and the development of plastic surgery since the war has placed in the surgeon's hands methods for the repair of defects and deformities which formerly deterred him from undertaking adequate surgical removal of the disease in advanced cases.

The opportunity for the further development of surgical methods of dealing with cancer is provided by the possibility of concentration of the professional skill of the staff on certain forms of the disease; and with this opportunity goes hand in hand the responsibility to the community that technical details and difficulties should be overcome and that the end-results of treatment should be at all times available for consideration.

So far as radio-therapy is concerned similar conditions exist. There is room for great technical improvement in the application of X-ray and radium in the treatment of cancer, and here again a better knowledge of the end-results of treatment is sadly needed. The use of radiation in combination with surgery, is also a field that demands more extended study, as in the employment of pre-operative X-ray treatment of cancer of the breast. To all of these questions the Palmer Memorial will devote its energies and the results of its experience will have great weight in determining future practice.

We have emphasized the fact that the cancer problem is too large a one for the grasp of any single individual, and that a whole group of in-

dividuals is needed, each competent in his own line, if material progress is to be made. In the same way a single hospital or institution can not expect to accomplish as much as can a group of institutions, each complete in itself, but united in a common purpose. It is precisely such a group of institutions which the Palmer Memorial joins and supplements today.

It has long been known that the medical profession in Boston and in Massachusetts have shown a remarkable spirit of co-operation which is seldom found in other medical communities. This in fact has been one of the many great traditions of medicine, in this community, and in no respect is it more conspicuous than in the attitude of the profession to the cancer problem. The forces which have been mobilized in this war on cancer include the State Department of Health, the American Society for the Control of Cancer, and especially its Massachusetts branch, the United States Public Health Service, the Cancer Commission of Harvard University, the Red Cross, the Life Insurance Companies, and Life Extension Institutes, the Massachusetts Medical Society with a special committee on cancer, together with the special cancer hospitals, such as the Huntington and the Palmer Memorial, the General Hospitals which have established public cancer clinics such as the Massachusetts General Hospital, the Free Hospital for Women, the Boston Dispensary, the Springfield Hospital and others which are now in process of organization under the stimulus of the State Health Department; the new hospital at Wrentham established by the State for advanced cases and the institutions which accept terminal cases for a purely humanitarian purpose, such as the House of the Good Samaritan, the Holy Ghost Hospital and other institutions for incurables.

While there is no formal organization, that unites this group of institutions, the individual members of their staffs are closely interlocked and the work of one is closely co-ordinated with that of the other agencies. I do not think so well organized an attack upon the practical aspects of the cancer problem, as a whole, is being carried on in any other community, and the organization and the personnel of the Palmer Memorial Hospital represent a most valuable and much needed addition to the forces already mobilized for the campaign.

THE INCIDENCE OF HEART DISEASE IN MASSACHUSETTS*

BY PAUL D. WHITE, M.D.

It is of much interest to note that, while there has been a steady drop in the death rate in the State of Massachusetts in the past 50 years from 2.15 per cent in 1875 to 1.23 per cent in 1925, and while the infant mortality has

dropped in the last 25 years from 15.6 per cent in 1900 to 7.3 per cent in 1925, the mortality from heart disease has risen during the past 15 years from 0.119 per cent in 1910 to 0.208 per cent in 1925. Figures 1 and 2. Coincident with this rise in mortality from heart disease, which

*Abstract of talk given at staff meeting of the Boston Dispensary, Monday, February 21, 1927.

is absolute as well as relative, there has been an absolute (as well as relative) drop in mortality from tuberculosis during the same period from 0.179 per cent to 0.083 per cent, including all forms of tuberculosis, although the pulmonary type is far in the lead. The rate in the two other chief causes of death, pneumonia and cancer, has varied as follows in this 15 year period, pneumonia from 0.142 per cent to 0.057 per cent, with a transient marked increase at the time of the influenza epidemic to 0.265 per cent in 1918; cancer has risen slowly from 0.090 per cent in 1910 to 0.125 per cent in 1925. These figures have been obtained from the Annual Reports of the Vital Statistics of Massachusetts and so are the most accurate available.

The increase in the number of deaths from heart disease is doubtless the result of several factors: (1) the diagnosis is probably more accurate and thus fewer cases are missed (although it is possible that the condition is over-diagnosed at times, this happens less often than previously); (2) with the decrease in infant mortality, and thereby the increase in average duration of life, more individuals live to ages in which heart disease may appear, either in childhood or in adult life; and finally (3) it is likely that heart disease is actually on the increase in Massachusetts.

In the campaigns against heart disease now being organized, chiefly in this country which is acting as a pioneer in this respect, it is naturally of prime importance to study and understand the causes of this affection. Two generations ago the pathological findings or structural changes in the heart were all that the medical profession was primarily interested in. Causes were of course sought and mentioned, but not emphasized as seems necessary today; then, less than a generation ago, chiefly through the stimulation of James Mackenzie, the functional disturbances and condition of the heart and circulation were studied, probably somewhat to the depreciation of other features. However, important advance was made. Now, more recently, an attempt has been made to search out and label, so far as possible, the etiological factors, both for the sake of more accurate diagnosis, prognosis, and treatment, and also in preparation for the campaign against heart disease. A diagnosis of a cardiac lesion at present we feel is incomplete unless it includes all of three factors: (1) etiology, (2) structural change, and (3) functional condition. Where the cause is unknown, as it not rarely is, it is well to state this fact; this in itself will help to stimulate further study.

The etiological problems of heart disease are not necessarily the same in all parts of the world. It is important, therefore, to collect as carefully and completely as possible information about the types of the disease in various districts of this country and foreign countries. A recent study of 3000 patients with heart trouble (not

all heart disease), seen in hospital, general, and consultation practice in New England, has shown the situation briefly described below. These cases were in the majority from Massachusetts. Both private and hospital cases were included so that the entire community would be represented. Four-fifths of the cases showed organic heart disease and one fifth functional disturbances alone.

The "rheumatic" type of heart disease is the chief problem in New England as a cause of cardiac disability (total of 41 per cent). It is found in more than one half (54½ per cent) of all the (organic) cardiac patients seen in a large hospital clinic (Massachusetts General Hospital). It is much less common in private practice (one-third of the total), but is still important. Factors entering into the incidence of rheumatic fever, chorea, and therefore rheumatic heart disease are climate (these diseases are rare in southern climes), social and economic status, family susceptibility, and, probably, very mildly, contagion. There may be also other elements. Poverty, crowding, exposure to cold and dampness, and family incidence all favor its production. It is by far the commonest form of cardiac disease under the age of 30 years at present (at least 95 per cent). Prolonged bed treatment for many cases in childhood may be as necessary as in pulmonary tuberculosis; this remains for the future to decide.

The next two most important causes of organic heart disease in New England are coronary disease and hypertension. Singly, they were thought to account for 20½ per cent and 13½ per cent of the cases respectively, and, in combination for 17½ per cent more (a total for both factors of 51½ per cent). As seen above, hypertension and arteriosclerosis are often found in the same case as the underlying reasons for the cardiac disability. Coronary disease, often very difficult to judge both as to occurrence and degree, appears to be much more common (about twice) in general and consultation practice than in the present hospital clinic, although the latter is gradually evolving to represent eventually the same people in the community that are seen in private practice (that is, the whole community). Further study is needed to determine the underlying causes of some obscure cases of coronary and myocardial disease.

Nephritis itself except as it affects the heart by the associated hypertension or uremia does not cause heart disability. Only an infrequent case of hypertension appears to result from a primary nephritis.

Syphilis (by its production of aortitis) and hyperthyroidism are important but not very common causes of heart disease in this part of the country, the former accounting for about 4 per cent and the latter about 3 per cent of the total number of patients with organic heart disease. Both of these factors are very clearly

defined and should eventually be preventable. It is still a little too early to say what the future may hold forth with regard to the decrease in these two inciting conditions with the more

tion of rheumatic heart disease. The casual bacillus is known—the streptococcus viridans—but no cure has as yet been found. Angina pectoris, occurring mostly in the

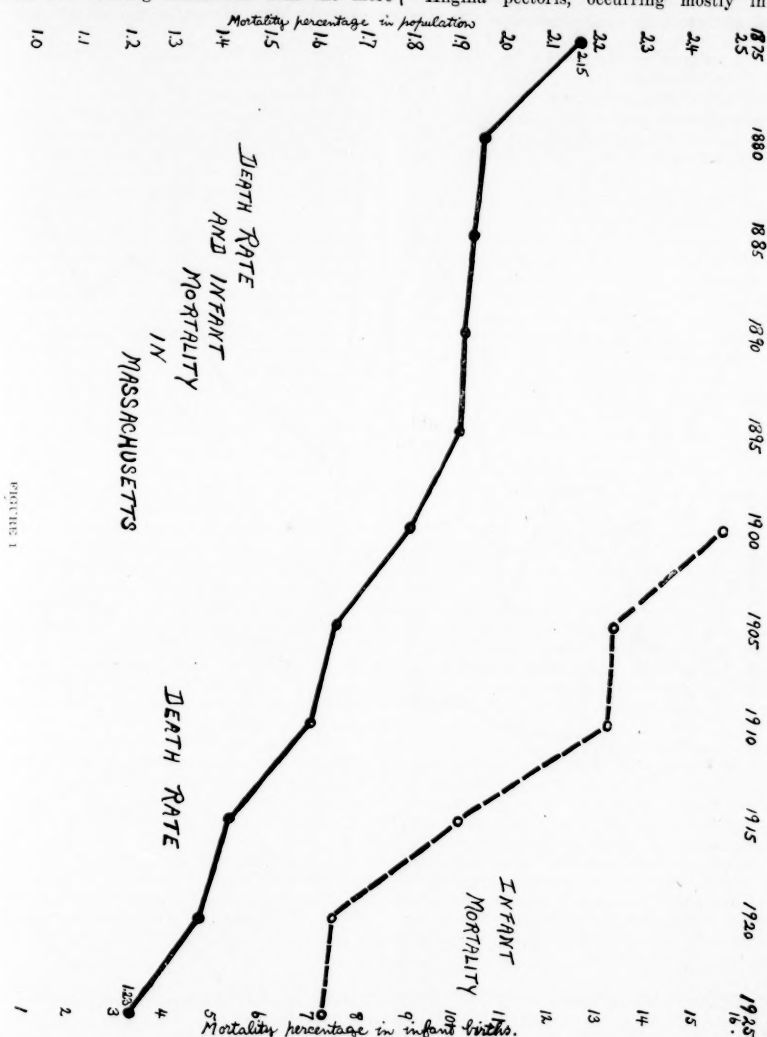


FIGURE 1

satisfactory early treatment of syphilis and exophthalmic goitre that exists today.

Subacute bacterial endocarditis is an infrequent but very serious type of cardiac lesion, making up something like 2 per cent of the cases, almost always fatal and very often a complica-

fies, seems to be constantly increasing. It is a symptom, but a very serious one, although frequently compatible with an active life long after its onset. It existed in over 20 per cent (21 per cent) of the (organic) cardiac patients seen in private practice, but it is still relatively uncom-

mon in hospitals (less than 10 per cent = 9½), although increasingly often met with. The factors in the production of angina pectoris seem to be a sensitive nervous system, much nervous strain, and probably early changes in the coro-

angina pectoris as well as the fact that more people are now living to the "angina pectoris age." Fifteen years ago, in England, Sir William Osler said that a busy consultant (not specializing in heart disease) might see 12 cases of

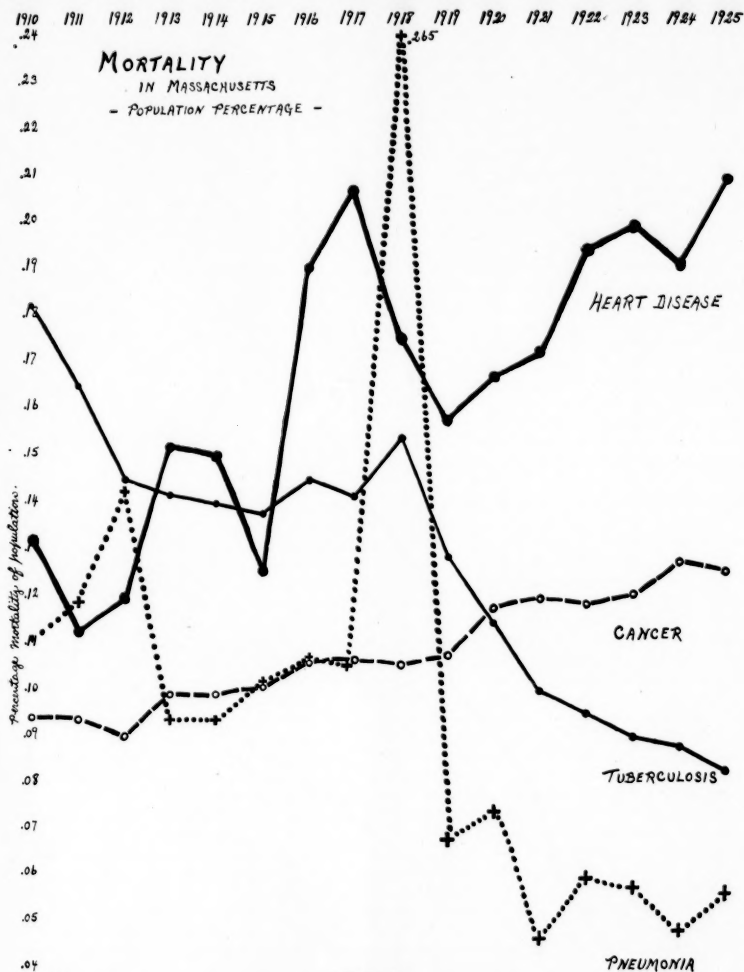


FIGURE 2

nary arteries, aorta, or both (more likely the former). The stress and strain of modern life, particularly fostered by strenuous business and professional methods, and by two "conveniences"—the telephone and the automobile—are quite likely responsible for the marked increase in

angina pectoris in a year. Last year, This increase appears of much importance; something should, and probably can, be done about it, although it may be slow work.

Coronary thrombosis, only recently recognized in the etiology of heart disease, occurs in

from 3 per cent (of the total cases) to 6 per cent (of the private cases) in this series. It is the result of blocking of a damaged coronary artery; it may be associated with sudden death, or allow survival for a few months or years, but the prognosis for a very long life is generally not good. In about one-half the cases it is preceded by angina pectoris. It is quite possible that, aside from the cases due to syphilis, the rush of modern life has also something to do with the frequency with which coronary thrombosis is seen, in part perhaps by favoring pre-senile arteriosclerosis. It is also likely that there are infections and toxic factors, obscure at present, underlying some cases of early coronary disease.

Congenital heart disease is fortunately rare, forming about one and two-thirds per cent of the cases in this series. Even at the present day it seems almost an inevitable condition, but with further study of heredity, and the condition of, and influences affecting, germ cells and fetal development, some progress may eventually be made in checking it. There are various types of congenital heart disease; the prognosis varies with these types, usually in accord with the degree of cyanosis. Death may be early in infancy or childhood, or a fairly long life may be enjoyed.

Finally, effort syndrome, the "nervous heart," or the irritable or "soldier's heart," is of common occurrence, with or without heart disease. It was present in close to 10 per cent of the entire group of 3000 cases studied. It is found oftenest in young people born with a sensitive nervous system and under nervous strain. Sometimes the symptoms are more disagreeable than those of heart disease itself. It is amenable to satisfactory treatment, and should be decreased by the same methods that in older people may cut down the frequency of angina pectoris. Further analysis of this large miscellaneous group of "nervous heart" cases is needed. It is obvious that the hodge-podge of "effort syndrome" diagnoses includes various subdivisions that have been suggested but not completely studied and described up to the present. After effort syndrome the remaining half of the "purely functional" cardiac diagnoses is made up of uncomplicated premature beats, (or extrasystoles), ventricular or auricular, paroxysmal tachycardia, and functional systolic murmurs.

A few patients with cardiac symptoms and

signs must be classed as "unknown" so far as etiology is concerned. They comprise about 2½ per cent of the series of 3,000 cases already referred to above, provided we consider all non-luetic chronic valvular disease in young people as of rheumatic origin, and provided we are content to consider the hypertensive and arteriosclerotic types, separate or combined, as individual types. Further knowledge to be gained in the future especially concerning these last named groups will occasion a readjustment of the etiological classification of cardiac diagnosis and of such statistics as those presented above.

SUMMARY

The mortality from heart disease in Massachusetts has apparently increased in the fifteen year period from 1910 to 1925, from 0.119 per cent to 0.208 per cent (of the total population). Heart disease is by far the commonest cause of death in this state at the present time (in 1925 the mortality from cancer was 0.125 per cent, from tuberculosis 0.083 per cent, and from pneumonia 0.057 per cent). The total death rate in Massachusetts has dropped in 50 years (1875 to 1925) from 2.15 per cent to 1.23 per cent, and the infant mortality has dropped in 25 years (1900 to 1925) from 15.6 per cent to 7.3 per cent.

Analysis of the etiological factors responsible for 3,000 cases seeking medical help for cardiac symptoms and signs in hospital (1000 cases), general (1000), and consultation (1000) practice during the last few years in New England has indicated that about 80 per cent had organic heart disease and 20 per cent functional disturbances alone. Of the organic cases the following types were differentiated: "rheumatic" 54½ per cent, coronary disease (arteriosclerotic) without hypertension 20½ per cent, hypertension without coronary disease 13½ per cent, hypertension with coronary disease 17½ per cent, syphilis 4 per cent, hyperthyroidism 3 per cent, subacute bacterial endocarditis 2 per cent, angina pectoris 21 per cent in consultation and 9½ per cent in hospital practice, coronary thrombosis 3 to 6 per cent, and congenital heart disease 1 2/3 per cent. About one half of the "purely functional" cases were classed as "effort syndrome" (10 per cent of the entire series). Of the 3000 cases 2½ per cent were styled "unknown," there being no reasonable possibility of fitting them into any etiological group.

THE USE OF ARTIFICIAL PNEUMOTHORAX IN THE TREATMENT OF PULMONARY TUBERCULOSIS

BY MARK H. JORESS, M.D.

In the use of artificial pneumothorax for the treatment of pulmonary tuberculosis we have at our disposal a tried and well established agent for checking the progression of this disease. It.

Artificial pneumothorax should be used as an adjunct to the accepted routine of treatment, and should not be looked upon as substitute for it.

What is meant by the term *pneumothorax*? It means air in the pleural cavity. It is encountered in the course of trauma to the bony thorax, where the fragment of a fractured rib perforates the pleura, allowing air to enter the pleural cavity, inducing a lung collapse, but is found to occur more frequently in the course of chronic lung diseases, the most common of which is tuberculosis. The *modus operandi* in this group is the ulceration of a bronchus in direct contact with the visceral layer of the pleura, allowing an ingress of atmospheric air, which induces a collapse of the lung. Spontaneous pneumothorax occurring in tuberculosis is met with most commonly in the advanced stages of the disease, although, it may be the first manifestation of an incipient process. Apparently nature is attempting to heal the diseased lung by collapsing it. An English physician of the last century noted that patients with tuberculosis showed improvement following spontaneous pneumothorax. The clinical symptomatology of spontaneous pneumothorax varies in degree and intensity depending upon the extent of the collapse. Usually symptoms are severe: sudden sharp pain over the affected side, dyspnoea and rapid pulse, the patient entering into a state of shock. The reason for the shock is the sudden appearance of abnormal conditions: one lung is obliged to do the work of two; the mediastinum is acutely displaced, frequently inducing a mediastinal flutter; the great vessels are crowded; the heart is embarrassed, particularly if the collapse is on the left side. The sum total obtained is a condition of circulatory and respiratory distress.

In the therapy of artificial pneumothorax we are able by means of a manometer to gauge the exact amount of air to be introduced, and aided by fluoroscopy and roentgenograms it is a relatively easy matter to eliminate the symptoms as described under natural or spontaneous collapse.

What are the aims of artificial pneumothorax in the treatment of pulmonary tuberculosis? They are several: first, to approximate diseased lung tissue, aiding in the formation of fibrosis; second, to express the infectious secretions and discourage aspiration into, and infection of unaffected lung tissue; third, to obliterate cavities, thus warding off potential hemorrhages; fourth, to slow up the pulmonary lymphatic circulation thereby lessening toxemia; fifth, to arrest hemorrhage.

What are the indications for this treatment? In reply to this question no stereotyped answer could be given. In general, in any case showing unilateral involvement with or without cavity formation, providing there are no contraindications, and in which case several months of intensive bed treatment have produced no definite improvement, artificial pneumothorax should be given a trial. Recurring hemoptysis, no matter how small the quantity, likewise constitutes a

proper indication for collapse therapy. Regarding the last named indication, one should be reasonably sure that the side compressed is the one from which the blood is coming.

In choosing a case for inducing a pneumothorax the question arises as to the presence of contraindications. I see only two distinct reasons for its non-employment: first, a cavity in the opposite lung; second, a complication which is in itself more serious than the disease under treatment. Tuberculosis of the larynx and of the intestines are believed by some to militate against its use, but I do not consider them as obstacles to this form of therapy. Involvement of the opposite lung is not a contraindication to inducing a pneumothorax as proved by the good results obtained in some of these cases.

As we proceed with a case there appear many problems which are best handled by judging each on its own merits. For example: (1) site of puncture; (2) dosage; (3) interval for re-fills; (4) the presence of extensive pleural adhesions; (5) manometric readings. It is the experience of pneumothorax operators to find pleural adhesions more frequently in the posterior aspect of the chest; hence, the approach to the pleural cavity is best made between the anterior and mid-axillary lines in the right, and the mid-axillary and posterior axillary lines on the left. I usually choose the 8th or 9th intercostal space for introducing the pneumothorax needle. At this level one commonly finds a free pleural space. In choosing the particular spot for inserting the needle, the most resonant area is selected. The roentgenogram is frequently employed to pick the favorable site for puncture, yet it happens not infrequently that there is quite a discrepancy between the clinical and X-ray findings. For example, the film may show dense pleural adhesions, yet the attempted inflation is easy, and vice versa.

Regarding the dosage, it was the custom not long ago to introduce large quantities of gas or atmospheric air, inducing a collapse even in as few as 3 or 4 inflations. It can readily be appreciated that a technique of this kind is conducive to several deleterious effects: first, a too sudden compensating strain upon the good side with the possibility of its breaking down; second, transference of tuberculous secretion from the diseased to the well portions of the "gassed" lung, as well as contamination of the healthy side; third, mediastinal mobilization with the attendant displacement of and disturbed circulation in the large vessels, not unlike the picture obtained in a spontaneous collapse; fourth, tearing of pleural adhesions with the possibility of inducing a pleural exudate, an empyema, or a spontaneous pneumothorax. Observation of many cases has convinced me that effusions occur more frequently in those cases which are compressed too rapidly. The customary prac-

tice at the present time is to use small doses repeated at frequent intervals, that is 300 to 400 c.c. of gas or air twice a week. In other words, we are now "compressing" the diseased lung rather than "collapsing" it.

Once an inflation has been made the question arises regarding the proper time for a refill. That depends chiefly upon two factors: first, the rate of absorption of the gas introduced; second, the effect compression has upon the good side. It has been estimated¹ that the normal pleural cavity absorbs about 80 c.c. to 100 c.c. of nitrogen gas per day, but after a compression has existed for several months the absorption is about 25 c.c. to 50 c.c. per day. Yet there are exceptions to this working rule for there are types of pleura which absorb the gas very quickly or very slowly. In doing artificial pneumothorax it is important to know at all times of the amount of air present in the pleural cavity. One cannot exercise too much vigilance for a lung under compression therapy may come out of collapse when least expected. For that reason not only should the lung be examined from time to time with the stethoscope but frequent fluoroscopic examinations should be made to ascertain the exact conditions at hand. Regarding the effects upon the normal side, the intervals for refill may be made longer when it is found that a reactivation is taking place in the contralateral side. Under such circumstances inflations are withheld, and improvement often follows. Otherwise, compression is continued, but the dosage is small and just large enough to keep the infiltrated lung from reexpanding.

Pleural adhesions so frequently met with in the chronic cases are a problem, indeed. These vary from the fine bands which are easily stretched during the act of inflating to the thick, inelastic bands which make successful compression impossible, and, likewise, dangerous. Frequently, the adhesions form pockets permitting the introduction of small amounts of air. These pockets when further inflated cause marked pain. Attempts are sometimes made to break the adhesions and stretch the pockets by inflating under a positive pressure. This practice is, to my mind, fraught with danger. It favors shock, effusion, spontaneous pneumothorax, and air embolism. It is my practice when encountering adhesions to ascertain not "how soon before I can induce a compression?" but "how soon before I shall discontinue treatment?" Two well tried but unsuccessful attempts are to my mind ample evidence that the particular case is unsuitable for pneumothorax treatment. As a result of chronic adhesive pleuritis the pleural surfaces are often found organized. This type of case, when an attempt at compression is made, carries no little danger of lung puncture with the possibility of hemorrhage and air embolism. For that reason one should never allow the gas or air to flow unless

he has made sure that a free pleural space has been found and entered.

Manometric readings are a vital part of the pneumothorax operation. The manometer, when made to communicate with the pleural cavity, keeps us informed of the many abnormalities present in and about this space. Above all it tells us the location of the needle end. When the pleural cavity is entered and we are in a free pleural space the two columns of water in the manometer show a fluctuation, the side toward the pleural cavity showing a wider range of excursion indicating the normally negative intrapleural pressure. If the needle is extrapleural, or is surrounded by dense adhesions, or is plugged by tissue or blood the manometer will show no fluctuation. I have, likewise, observed an absence of manometric fluctuation in those cases in which an exudate has formed as a complication. When the needle enters a pleural pocket and air is allowed to flow into it, a test reading of the manometer will show a previously negative intrapleural pressure converted into a markedly positive pressure. Manometric readings are helpful in estimating the rapidity of gas absorption, in gauging the quantities to be introduced, and in estimating the interval for refills.

There are certain complications which arise during artificial pneumothorax treatment. First, subcutaneous emphysema. This takes place when gas or air escapes from the pleural cavity during or after an inflation. The subcutaneous tissues become distended with air and the physical signs obtained are identical with those found in infection with the gas bacillus. The patient usually complains of discomfort, of slight pain, and of "crackling" under the skin. Should the air make its way into the tissues of the neck, the discomfort and pain are increased. Subcutaneous emphysema occurs more frequently in those cases having pleural adhesions and pockets; hence, it is the chronic case which is the more frequent offender in the causation of this condition. This complication can likewise occur in the case without adhesions if the pneumothorax needle is not held steadily permitting its end to slip out of the pleural cavity. Pleural shock is another complication. This varies in degree and intensity. As to its etiology opinions vary: it is considered by some to be the result of a reflex force, namely, an irritation of the pleura followed by a reaction in the central nervous system. Yet experiments conducted by Schlaepfer², at Johns Hopkins Hospital, showed no constant central nervous system reaction when the normal pleurae of various animals were stimulated by chemical, mechanical, electrical and other stimuli. By others it is considered due to air embolism. In a recent article³ appearing in the *Journal of the American Medical Association* the writers are of the opinion that those cases reported as pleural shock are in reality mild cases of cerebral air embolus. The writers report

their observations in ten cases, two of which came to autopsy, and these showed air bubbles in the cerebral vessels. The symptoms and signs which they have observed are: nausea, pallor, pain at site of operation, tonic and clonic convulsions, visual disturbances, coma, passing manic depressive manifestations, amnesia, visible air bubbles in the retinal vessels. The following is a case which came under my observation about three years ago, exhibiting symptoms which could well be attributed to air embolism; the patient was having his third inflation. He had chronic disease with numerous pleural adhesions. After 500 c.c. nitrogen gas had been introduced, he fainted. He complained of losing his eyesight and consciousness. Upon his return from the operating room, he was blind and had a hemiplegia. The following three days he had suppression of urine. The patient made a slow but uneventful recovery and was subsequently discharged as a quiescent case of tuberculosis.

The next complication is the occurrence of pleural exudates. The symptomatology of this concurrent process depends upon the size of the effusion. The small ones are not important. The large ones require careful watching. Regarding the management of these cases, practices vary. Some able men, like Geekler⁴ of New Mexico, are evacuating these effusions and are replacing them with air. It is my habit to leave exudates undisturbed and withhold compression, even permitting the lung to come out of compression. It seems to me that an occasional aspiration may be all right, but repeated meddling with a sterile fluid carries no little danger of infection, with the production of an empyema with all its disagreeable possibilities. Moreover, when the effusion is large enough it is quite effective in acting as a cushion of air in keeping the lung in compression.

Spontaneous pneumothorax may occur as a complication at any time during artificial pneumothorax treatment. The diagnosis of this condition is made in a case under treatment when there is a sudden onset of pain on the affected side of the chest, increasing dyspnea, rapid pulse and a rise in temperature. The formation of fluid is a common sequel, and when this happens there is an improvement in the symptoms. This points to the possibility of the fluid's acting as a means of sealing up a traumatic opening in the visceral pleura, which is probably responsible for the spontaneous collapse. In a paper read at the twentieth annual meeting of the National Tuberculosis Association Bronfin⁵ reports seven cases and reviews the various theories of causation of this complication. Among them the following are the principal ones: (1) a too rapid change in the intrathoracic pressure with an accompanying rupture of the visceral pleura at a weak point; (2) rupture of emphysematous blebs located immediately beneath the visceral pleura; (3) trauma to the lung by the pneumo-

thorax needle. Whatever the etiology of this condition, the symptoms are at times alarming, and the accompanying effusion carries with it the possibilities of infection and the production of an empyema.

Another complication which often determines the outcome of a case is a reactivation in the contralateral lung. This must be guarded against at all times and demands the greatest vigilance on the part of the attending physician. Any untoward symptoms like loss of weight, fever, increased expectoration, loss of appetite, and pulmonary congestion complained of by the patient call for careful study with the stethoscope and roentgen ray. Matson⁶, writing on "The Contralateral Lung in Artificial Pneumothorax," says, "The contralateral lung when diseased should always be suspected when unfavorable clinical symptoms arise." In case a reactivation occurs, inflations are withheld until one has made certain that the reactivated lung has improved; then the compression is continued. It happens quite often that even a few small doses of gas will tide the patient over a crucial period in his illness, and he will begin to improve and the lung to heal. To illustrate I will cite a case which came under my personal observation.

F. A., male, aged 16 years, was admitted to the sanatorium a little over two years ago. The sputum was positive. The disease was characterized by severe hemoptyses; the entire right lung was infiltrated plus disease in the left upper lobe. Because of a hopeless prognosis and because pneumothorax was his only chance, this was started. After I had given him four small inflations, he showed aggravation of the disease on the better side, making it necessary to withhold inflations. He soon after began to show improvement in his general condition and the contralateral lung began to heal. Several months later I decided to recompress the deflated lung and was successful in doing so. At the time of writing the paper the boy is in his third year of compression; the pneumothorax lung is compressed and the contralateral lung free from clinical tuberculosis. He is feeling well and is able to perform light work and exercise.

This case illustrates two points: first, that even several small doses of gas may give the patient a good start on the road to recovery; second, that a lung which had become deflated can be recompressed although it is very unusual on account of pleural organization incident to the re-expansion of a compressed lung. Hutchinson⁷ reports a case in which the interval between the last induction and refill was 6 years and 3 months.

Regarding the operation of artificial pneumothorax. While the operation is in itself not a major one, the operator should exercise all possible caution regarding a sepsis; the serum present in the pleural cavity is at all times a good culture medium for bacterial growth. While some men give a preoperative hypodermic to check the patient's cough, I have not found it necessary to do so. The patient seems well able to check his cough, probably because his mind

is focused on the procedure. The patient is placed on the operating table in a position similar to that used for a thoracotomy, making sure that the greatest amount of rib separation is obtained, thereby avoiding intercostal nerve and artery injury. After the location for puncture has been chosen, the operative field is prepared in the usual manner. The chest is draped with towels and a sheet with a small opening is placed over the area chosen. I use one half of one per cent novocaine for the anesthetic employing a needle $\frac{3}{4}$ inches long. A needle of this length suffices for the majority of cases. Should a larger needle be used it may go through the visceral pleura and puncture the lung. The Floyd-Robinson pneumothorax needle is a very convenient one to employ; its end should not be sharp but bevelled down so that we obtain a blunt point. Disregard for this detail may cause the transfixing of a vein or an adhesion with the possibility of hemorrhage and air embolism. Using a fine scapel, I cut through the skin and subcutaneous tissue. The pneumothorax needle is then directed through the channel and the pleural cavity entered. Having assured myself that the needle end is in the pleural cavity and finding all connections in working order, the gas or air is allowed to flow. The pleural cavity is filled slowly, taking periodic manometric readings. Should the patient complain of pain or dyspnoea, sweating or rapid pulse which is increasing, the inflation must be stopped. Two hundred to three hundred c.c. of air for the first dose is sufficient unless the lung is being collapsed to arrest a hemorrhage, in which case a thousand c.c. or more may be given. It is my practice not to enter the pneumothorax needle as long as there is oozing at the point of puncture because of the possibility of forcing

blood into the pleural cavity, and having it act as a culture medium for bacterial growth. Also, a punctured blood vessel before its opening has been sealed off is capable of aspirating air bubbles with the possibility of causing air embolism. At the end of the inflation a dry dressing is applied over the wound and held in place by a strip of adhesive plaster.

SUMMARY

1. Artificial pneumothorax is an invaluable aid in the treatment of active and progressive pulmonary tuberculosis.
2. Immobilization of the diseased lung promotes lymphatic stasis; hence, it helps to retard dissemination of the disease; it lessens toxemia, and favors fibrosis.
3. Therapeutic pneumothorax should be employed early, when the disease is limited to a portion of a lobe caseous or cavernous in type.
4. It is indicated in repeated, though small, hemorrhages.
5. In the judicious use of artificial pneumothorax we have a potent remedy in combatting clinical tuberculosis.

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NOTES FROM A HEALTH CLINIC

BY ROBERT W. BUCK, M.D.

THE health examination is a useful adjunct to the campaign against preventable disease. A considerable proportion of the population would undoubtedly be benefited if everyone had a medical examination every year or so. It is unfortunate that whenever special attention is directed to any phase of medical examination, diagnosis or treatment, there spring up individuals or groups which stress and overrate the new idea beyond all reason. The idea of the periodic examination of the presumably healthy has not been an exception to this rule. It is implied to the unwary layman that much if not all circulatory and malignant disease—the so-called degenerative diseases—of middle life can be safely avoided through this simple means, and that life can be successfully prolonged thereby. One enthusiastic advocate points to the experiments of

Jacques Loeb, who was able to extend the life span of the fruit fly 900 times or thereabouts, and asks, why not so with humanity itself eventually? A great, commercially organized booster of the idea takes its name from this promise. A cold blooded life insurance company believes that a number of years with their golden dividends have been added to the lives of the policy holders who have subjected themselves to the health examination¹. The health examination has begun to take form as an elaborate questionnaire seeking information in regard to what must be matters of really minor significance, and providing for notations under the part devoted to the physical examination of anthropological measurements and other minutiae of assuredly small clinical importance. Details in regard to the precise amounts of ingested cooked and raw

vegetables or the number of pieces of pie daily, the sitting posture, the shape of the crines and the width of the palpebral apertures or the surface temperature of the skin of the legs are among the items included in certain of these exhaustive surveys which it has been my privilege to examine.

The justification given for this specious thoroughness is that if we are careful to note and successful in eliminating all possible sources of future trouble in the shape of vasomotor irregularities, small foci of infection, suspicious habits of eating and so forth, we shall prevent the development of a great deal of disease. Perhaps we can, although there is little evidence that we are as yet in a position to say much about the final etiology of much of the disease which we are told can be prevented. But it seems as if this sort of guarantee were premature.

Notwithstanding the overemphasis and probably misleading promise of the health examination enthusiast, it is true that a simple and reasonably thorough examination of supposedly healthy persons every few months is distinctly worth while, not only to the patient who not infrequently learns that he has diabetes or gall-bladder disease or an unsuspected and still removable tumor, but to the examiner who has an opportunity to learn more than he knew about the bad habits of his clients and the prevalence of varying degrees of illness which are only faintly suspected.

In the Health Clinic of the Boston Dispensary, which was established seven years ago by the late Dr. Lesley H. Spooner, we have from time to time on occasion taken stock of the data gathered in some thousands of such examinations, and we always learn something and gain something by our inventory.²

An analysis of the last eight hundred examinations showed as have previous analyses from the same clinic, that approximately eighty percent of our patients considered themselves well, having lost less than two weeks time from work during the two years previous to the examination. It is necessary to add, however, that nearly all our patients take advantage of the fact that they are about to have an examination by mentioning their principal complaints, as they are asked to do. These eight hundred people complained of nearly 1200 common discomforts as follows:

Indigestion	348 or 44%
Constipation	322 " 40%
Nocturia	256 " 32%
Fatigue	218 " 27%

As is customary, we ask people about their habits of eating, recreation, exercise, etc. So far as we know, there is no medical reason for selecting an arbitrary standard amount of exercise, water, meat or speed of eating to which one must commit himself in order to enjoy perfect health, but by establishing such standards we are enabled to classify our patients, and ascer-

tain if occasionally there is any correlation between variance from an average standard and a given complaint or diagnosis. Thus, we assume that twenty minutes is a reasonable minimum time to demand for the consumption of the average meal,* and that four glasses of water a day, meat once a day, vegetables twice and an hour of exercise in the open air (or a roughly corresponding amount of housework from a busy wife) are as good as any yardsticks from which to note variations in custom.

We found that there was a considerable number who failed to meet these standards:

Insufficient fluid intake.....	401 or 50%
Rapid eaters.....	378 " 47%
Insufficient vegetables.....	362 " 45%
Insufficient exercise.....	279 " 35%
Excessive meat.....	125 " 16%

Without cataloguing all our diagnoses, which indeed make quite an imposing list when one considers that they were made upon presumptively healthy persons, it is interesting to comment upon some of the more striking figures.

Fifteen tumors, almost all unsuspected, were found, among them six breast tumors, five uterine fibromata, one pituitary tumor, and one undiagnosed abdominal mass which later at operation was found to be a tuberculous cystic kidney.[†] One woman had a lump in her breast which was taken out at our recommendation and found to be carcinomatous. The lump was a purely incidental finding during the routine examination, and the patient was unaware of its existence. She has returned periodically for three years, and thus far there has been no indication of recurrence.[‡] One of the fibroids was found to show central malignant degeneration when removed.[§] The man with the pituitary tumor was as marked an acromegalic as one could hope to see, and he is now occasionally demonstrated by the surgeon who operated upon him as an example of how acromegaly may recede after removal of the adenoma. His complaint when he came to us was not headache or blindness, but constipation and acne.^{||} One patient in whom was found a fibroid the size of a grapefruit came in with her sister. Both desired a general examination for similar reasons; they felt rather run down, and had heard of the health examination and wished to try it out. One was sent away with the common advice to have her flat feet cared for, eat more vegetables, drink more water, or some such matter; the other was sent to the surgeon.^{**}

There were two cases of diabetes mellitus, one of whom knew that he had it, but who had long since broken diet, and was found to be on the verge of coma. He was sent to a hospital, where

*Our present questionnaire no longer asks the patient to guess the number of minutes he spends at a meal, but only that he classify himself as a rapid, intermediate or slow eater.

†Case numbers 1334, 1872, 1892, 1964, 1968, 1542, 1667, 1821, 1827, 1938, 1901 and 1520.

‡Case No. 1306.

§Case No. 1821.

||Case No. 1901.

**Case No. 1938.

he was reestablished upon a diet after successful treatment. We are unfortunately frequently unable to follow through our cases, particularly since we undertake no treatment ourselves from the clinic. The other patient had not suspected her condition.*

There were fourteen cases of pulmonary tuberculosis, an incidence of 1.75%, which is similar to the incidence figures reported in the Framingham investigation. I have not the figures, but a considerable number of these patients were aware that they were consumptives. One patient with active, advanced disease, however, not only did not know what she had, but gave us the discouraging information that within two weeks she had consulted a physician in a neighboring city who had told her that she was only tired and needed a rest. His opinion was not formed on the basis of any examination of the chest other than that possible through the clothing.†

There were six peptic ulcers, and six more who had either suspected ulcers or the symptom complex often called "hyperacidity" who had no demonstrable lesions by X-Ray.

Among the common defects that are always found in a series such as this one may be listed the following diagnoses:

Refractive error (uncorrected)	288	or	36%
Foot strain	162	"	20%
Hemorrhoids	155	"	19%
Varicose veins	126	"	16%
Diseased tonsils	102	"	13%

Our figures for the circulatory diseases and allied conditions are not unusual, but some further data will be given below in regard to some of them. We found 168 systolic murmurs unassociated with other indications of cardiac or valvular disease. This represents 21% of our patients. There were 51 cases of chronic myocarditis (Christian), and 20 of valvular heart disease. Ninety persons, or 11% showed arterial sclerosis peripherally or in the fundi. One hundred and sixty-eight or 21% had an arterial tension on one or more occasions of 150 mm. Hg. or above.

The Boston Dispensary laboratory uses the Exton sulphosalicylic acid test for albumin exclusively. This is a very sensitive test, and to one not accustomed to the results obtained by it, seems too sensitive to be valuable. We found 312 patients with albuminuria (39%). However, there is some evidence that such a sensitive test may be of value in separating the sheep from the goats among the people with high blood pressure.

Figures such as these have some significance in themselves, and occasionally startle us, but it is recognized that further analysis is necessary in order to determine more accurately what they really mean. The study of a considerable mass of data such as we collect requires a good

deal of patient sorting and classification, and the validity of some of the assumptions we make must be considered before too sweeping conclusions may be drawn. Recognizing these limitations and difficulties, we still feel that some impressions gained from a more careful study of our figures are worthy of record.

There was an opportunity here to gather some data in regard to the significance of obesity. We found that 109 or 13.6% of our patients were obese; that is, they were 15% or more above the average for their heights and ages.* There is a good deal of discussion of obesity and the reduction of weight under medical supervision as a therapeutic measure. Nearly all of our dispensaries and hospitals have diet clinics many of whose clients are being "reduced" at the physician's request. Still, there is not very much available information as to just what the clinical or pathological significance of obesity may be. We know that diabetes occurs more commonly in the elderly fat than in those of normal weight. We do not know, however, whether the obesity is an etiological factor or whether it is merely a symptom of what might be called the diabetic diathesis, nor are we certain that curing the obesity cures the tendency to those ailments to which the obese are subject.

In going over the records of our obese patients, we found among other things, that there is a definite correlation between obesity and hypertension. This to be sure does not seem a surprising or unexpected discovery, but it is rather startling to find as we did that the obese are more liable to have high blood pressure than the non-obese in the proportion of two to one, since among the non-obese in our clinic we found only 18.6% with a blood pressure of 150 or higher, while among the obese the proportion was 37.4%.

This is not, as might be suspected, merely an apparent difference due to the presumably greater tendency toward obesity among the middle aged and elderly people who naturally would furnish the bulk of our hypertension figures. The tendency to an elevated blood pressure increases with age much more than the tendency to obesity, as is shown in the following table:

Age Group	Percentage found obese	Percentage found to have hypertension	
		Obese Patients	Non-obese patients
15-24	1.3%	0	4%
25-34	9	12%	2
35-44	24	16	15
45-54	29	41	27
55-64	19	74	41
65-up	24	80	60

The greater tendency to hypertension among the obese at practically all ages is graphically

*We use as our standard the table of weights published in the report of the Medico Actuarial Mortality Investigation made by the Association of Life Insurance Medical Directors and the Actuarial Society of America, New York, 1912. (Vol. I, p. 38, Table IV.) This is the most accurate and satisfactory table of average weights available.

*Cases Nos. 1812 and 1628.

†Case 1899.

shown in the accompanying chart (Figure 1).

A comparison of the percentage showing albuminuria in obese and non-obese patients was not very illuminating, although there was a slight difference in favor of the non-obese, as might perhaps be expected from the above table. Of the non-obese, 39% showed the presence of albumin in the urine by the Exton test, while among the obese patients, 42% showed albumin.

It is probably confirmatory of the significance of the Exton test in showing small amounts of albumin that among the patients with a blood pressure above 150, the percentage of albuminuria was 54% as contrasted with the average figure of 39%.

We were interested to see whether those who

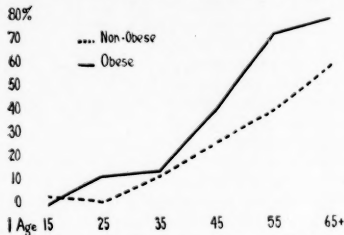


FIGURE 1. Percentage of hypertension by age groups.

admitted excessive meat eating (according to our rather arbitrary standards) would show a greater percentage of albuminuria than the average. They did not, for the figure was 39%, corresponding to the average.

Indigestion is a common complaint, and was mentioned by 44% of all our patients as noted above. To be sure, this term may cover a multitude of sins, but our replies were all checked over with the patients, and we are at least certain that the term means distress associated with eating, and not headache, diarrhea, constipation or any one of a number of things which some patients, having decided that their symptoms come from their "stomachs," term indigestion. Using the word then to mean discomfort of various sorts associated with eating, and remembering that essentially no organic basis of disease of the heart, stomach, lungs, kidneys, etc., existed so far as we could demonstrate in the great preponderance of these people, we went ahead in the attempt to see what might go with it when it was considered an entity.

Rapid eating is often blamed for considerable indigestion. We found that our rapid eaters were troubled with this symptom to the extent of 47% of their numbers as compared with the average figure of 44% and with the figure of 42% among the slow eaters. This confirms our advice to eat slowly to a certain extent, but not very strikingly.

We are inclined to think of the typical dyspeptic as thin, with the lean and hungry look

so feared by Caesar, and I suppose most of us would be surprised by our finding that the fat patients suffered more with indigestion than the thin ones. The average figure was, as I have said, 44%. The obese patients reported 46% with indigestion. It is only fair to add, however, that when we examined those with indigestion as a separate group, we found that the percentage of obese was no greater than among the average unselected group, being approximately 13% in both groups.

In view of the recent work by Alvarez and his associates concerning the relationship or non-relationship between constipation and hypertension³, we thought it worth while to review our data and ascertain if among our patients hypertension seemed to be more prevalent in the constipated group than among the average. We found that 40% complained of constipation as a symptom. Among these people, 21% were found to have a systolic blood pressure of 150 mm. or greater. The incidence of elevated blood pressure among those who did not present this symptom was precisely the same, 21%. So far as it goes, this would seem to substantiate Alvarez' conclusion that there is no evidence that constipation causes high blood pressure.

It is commonly asked during any discussion of health examinations among medical men whether or not the percentage of neurotic people is greater among patients who seek an examination without being impelled to it by disabling symptoms than among those who see the doctor because they are sick. It is difficult to answer this question without more data than we have. One wonders what percentage of the population as a whole may be considered neurotic, as well as what the usual percentage of neuroses may be among any group of patients seeking medical advice. My own impression is that in the younger age groups, say below age 50, we perhaps do see a considerable number of people who are more interested in their health and their symptoms than is good for them, and who might be called neurotic.

Among our eight hundred patients, nevertheless, a diagnosis of neurosis, psychoneurosis, or psychasthenia was made in only 16 instances, or 2% of the total number. The impression of a neurologist who assisted in the examination of a large number of our health clinic patients was, however, that many of the clinic patients were to some degree psychoneurotic. Our 2% represents probably only those cases in whom practically no other diagnosis could be made.

Whether we are dealing with neurotic people in the majority of instances or not, it is to my mind quite important for those of us who are making these periodic examinations to bear in mind that it is up to us to see in each instance that we are being of help to the patient rather than hurting him; for it is unquestionable that

if we in any way encourage psychoneurotic persons to dwell unduly upon their symptoms, or give them an organic diagnosis upon which the symptoms may be based, we are doing them harm, and probably hindering any immediate attempts to dispel the neurosis by psychotherapeutic methods. The discretion and judgment of the physician who reviews the results of the examination are called upon in every instance. In our clinic we provide for a concluding personal review of each examination with the patient himself, at which time only such matters as we consider to be significant to the patient are discussed with him. We do not consider it wise to present him with a sheaf of papers which he may carry about henceforth in order to display before every subsequent physician whom he consults. We have all been confronted by the patient who carries a bulky roll of typewritten manuscript under his arm, and informs us that no doubt we shall be glad to see what Dr. X and his clinic found. No written report is given the patient, but the doctor who refers him to the clinic or his family physician is always furnished with a summary if he or the patient desires it.

By confining our activity to the examination of the patient and undertaking no treatment, we hope likewise to retain the approval and co-operation of the family physician instead of arousing his antagonism by interfering with his patients' medical care. So far as I am aware, there has been little or no criticism of our clinic on this score.

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- 2 Lesley H. Spooner, M.D.: "The Boston Dispensary Health Clinic." Med. Record, Dec. 10, 1921.
Ibid.: "The Value of Routine Physical Examination." Boston Med. and Surg. Jour., Vol. 130, No. 13, pp. 746-748.
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PREPARING TO FIGHT MEASLES

DURING the year 1926 there were admitted to the Willard Parker Hospital 1,098 cases of measles; in this group 115 deaths occurred. Of these 115 deaths, 107, or ninety-three per cent., were in children under three years of age, and all but three of the 107 deaths were due to broncho-pneumonia. The study of the incidence of broncho-pneumonia in these cases is very interesting. Broncho-pneumonia was already present in 94 cases at the time of admission, and forty-five per cent. of this group died. Fifty-five cases of broncho-pneumonia developed subsequent to admission to the hospital, and thirty per cent. of this group died. This lower death rate shows that even in broncho-pneumonia, the general treatment of which consists in rest, warmth, proper food and nursing care, there was a lower mortality when proper medical care was given at the very beginning of this complication.

Proper sick-room facilities and nursing care at the very onset of measles diminish very materially the frequency of broncho-pneumonia as a complication. The proper care of mild cases of measles, especially in the very young, is often too lightly regarded.

The following table shows the number of cases of measles, number of deaths, case rate and death rate per 100,000 of the population, for the years 1920 to 1926 inclusive. It also gives similar data for the first nine weeks of 1926 and 1927, to show the contrast in the situation last year and in the current year.

Year	Number of cases Reported	Number of Deaths	Case Rate Per 100,000	Death Rate Per 100,000
			of Population	or Population
1920	35,083	736	622	13.
1921	7,738	165	136	3.
1922	40,569	977	707	17.
1923	13,999	245	242	4.
1924	33,561	506	572	9.
1925	9,483	130	161	2.
1926	39,750	706	671	12.
1st 9 Wks., 1927	221	1	22	.1
1st 9 Wks., 1926	17,603	211	172	21.

As an increase in the prevalence of measles is expected about next October, the Willard Parker Hospital is now planning to be prepared to give measles antitoxin, derived from goats, or convalescent human serum, to every child up to four years of age, if it is found that they are free from broncho-pneumonia at the time of admission to the hospital. In measles, three days of fever precede the onset of the rash, and it is during these three days that good nursing care and medical treatment avert dangerous complications.—*Bulletin N. Y. City Department of Health.*

ARTHUR W. BINGHAM, M.D.

EX-CIRCUS FAT MAN

GETS PROBATION FOR PRACTISING MEDICINE ILLEGALLY

HERBERT C. PENNEY, 72, a former circus exhibit, was placed on probation by Judge Fosdick in the superior court recently for holding himself out to be a physician. Penney was not a light weight tipping the scales at over three hundred and fifty pounds.

He declared that he was an "original scientist" and he is an illustration of the benefits to be secured by his treatment. Herbs, barks and roots form the ingredients, he says, of the patent medicines he makes.

Penney said that he didn't want to violate the law. He didn't know that in putting up signs in his windows advertising cures that he was making himself out a physician.

"I'm going to put you on probation," said the judge, "but I want you to understand that if you are brought in again there will be a sudden cessation of your business for about nine months."

**Case Records
of the
Massachusetts General Hospital**

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN
WEEKLY CLINICO-PATHOLOGICAL EXERCISES

EDITED BY R. C. CABOT, M.D.

F. M. FAINTER, A.B., ASSISTANT EDITOR

CASE 13171

**CUTANEOUS LYMPHOMATA (MYCOSIS
FUNGOIDES) WITH RHEUMATIC
HEART TROUBLE**

DERMATOLOGICAL DEPARTMENT

A widowed Irish housemaid of sixty-seven entered for the first time March 26 complaining of skin trouble.

Five years before admission she began to have itching of the back. Some time later spots appeared on the front of her chest. A physician made a diagnosis of eczema. A year after the onset she fell and was laid up for thirteen weeks with a dislocated shoulder. During this period spots came out all over her skin. Another physician made a diagnosis of eczema and gave her a salve and a wash which relieved the itching. The condition had its ups and downs until two years before admission. Since that time it had been extensive and the itching more severe, though relieved by X-ray treatment. During the few weeks preceding admission the itching had been worse.

The family history is not significant.

The patient was ill eleven weeks with bronchitis when she was fifteen. At twenty she had rheumatism, chiefly in the right arm, and since that time had had it off and on in the winter. At thirty-seven she had fibroids removed. She had had no flowing since that time. For ten years she had had swelling of the feet and ankles, more on the right, when over-tired. In the past five years she had had occasional gas, sour eructations and regurgitation. For two years she had had sudden sharp pain in the chest or the pit of the stomach, brought on sometimes by exertion, sometimes by eating, relieved by hot water and saleratus. Occasionally in the past two years during exertion she had felt her heart "turn over." Her chronic winter cough and edema had been no worse during the past two years. During the past year she had had dizziness on exertion or over-fatigue, and had occasionally fallen. She had noticed clay colored stools. For the past six weeks she had had diarrhea, as many as nine loose movements a day. She urinated once or twice at night. Since she was in the hospital she had had some difficulty in starting the stream and some urgency.

Clinical examination showed a very obese old woman lying on a head-rest breathing with difficulty. Teeth poor. Pyorrhea. Over the face, trunk, arms, legs and neck were deep red patches varying from 5 to 10 centimeters in diameter showing infiltrated and raised rather broad margins. Between the patches the skin was clear. One patch on the nose was scaling. The soles of the feet showed dark keratotic exfoliations. Crackling râles at the bases of both lungs, greater on the right. Heart enlarged to the left. Percussion measurements: left border 12 centimeters, midclavicular line 7.5, right border 1.5, supracardiac dullness 5 centimeters. Action irregular. Sounds of poor quality. A systolic murmur. Pulses absolutely irregular. Blood pressure 145/80. Abdomen enormous, generally tender; nothing palpable. Vaginal examination negative. Slight pitting edema of the lower legs and ankles. Legs very tender. Knee-jerks obtained with difficulty. Pupils normal.

Urine: amount not recorded, cloudy at one of four examinations, specific gravity 1.014 to 1.026, many leucocytes and a few red cells at one of two sediment examinations. Blood: leucocytes 4,700, polynuclears 72 per cent., hemoglobin 90 per cent., reds 4,265,000, smear normal except for many immature polymorphonuclears.

March 27 a biopsy was done for the skin condition. Two days later the patient vomited after taking three grains of digitalis. She was given X-ray treatment for the skin condition and made much improvement. April 10 she was discharged.

After leaving the hospital her physician continued X-ray treatment at two week intervals into June. Then she went into the hills for nine weeks. At the end of that time she felt very well and wanted to work. She had slight itching of the skin. After she began to work her dyspnea returned. At the time of her readmission it had troubled her considerably for two weeks.

August 19, four months after her discharge, she reentered.

Clinical examination was essentially as before. Electrocardiogram showed auricular fibrillation, rate 95. Blood pressure 148/90. Pulse deficit 5 to 20 beats. Wassermann negative. Non-protein nitrogen 24 milligrams.

The patient was given X-ray treatment weekly and digitalis until she had nausea and vomited. She made good improvement and was discharged September 1.

During the next two months and a half her skin condition remained much improved. Then she had an attack in which her entire skin turned purple in two days, with increased itching and a feeling of heat. A dermatologist gave her an X-ray treatment and salts. The color gradually disappeared and the entire skin peeled. Soon after this red spots appeared on

her arms, became crusted, and if the crusts were removed formed sores. Beginning the middle of November she had X-ray treatments at two week intervals with much relief from itching. During the interval between admissions she lost about thirty pounds. For two months preceding her readmission the attacks of diarrhea which she had had for the past year had occurred every two or three weeks, lasting from twenty-four to forty-eight hours with six to ten white stools daily. Her eyes, which had been sore and discharged for the past year, were more markedly affected during the three weeks preceding her third admission. The evening of December 24 she was nauseated and vomited food eaten two hours previously. She had dyspnea on exertion and vertigo as usual. Sleeplessness was very disturbing. She slept only two or three hours. She had been taking digitalis three grains and a half on alternate days.

December 28 she entered the hospital for the third time.

Clinical examination as before except as noted. With the possible exception of her ears there was no visible normal skin. The skin was everywhere dry and studded with pigmented macules like freckles which gave a distinctly brownish hue to the generally red and copper flush which pervaded the entire skin surface, the face least. The lower legs were edematous, tender and almost lobster red. Ascending, the brownish red pigmentation became more evident. There were areas of various shapes of a deeper red than the rest. On the arms and legs were crusted grayish areas the size of a twenty-five to a fifty-cent piece. On the backs of the legs, the back and over the crest of the ilium similar sized regions from which the crusts had apparently been removed left shallow angry-red dry to moist ulcers. The flexor surfaces of the elbows showed marked thickening and brownish-gray scaling, more marked about the periphery. There was fine desquamation and scaling over the forehead and the back of the upper arm. Over the back were deep red areas. The scalp was dry, with fine scales in the hair. Near the left temple was a pea-sized fibroma, and near the right axilla another. The finger nails showed transverse grooving. There was redness near the finger tips. Over part of the soles of the feet were thick brown scales. The vessels of the fundi showed a mild degree of tortuosity. Most of the teeth gone. The remaining ones poor and loose. Gums inflamed and receded. Palpable non-tender glands in the submaxillary regions on both sides. Small palpable glands in both axillae. Mild heaving of precordium visible. Visible pulsation in neck. Apex beat palpable, fairly diffuse, not slapping. Percussion measurements: left border 11 centimeters, mid-clavicular line 8, right border 4+ centimeters, supracardiac dullness 5.5. A systolic murmur

heard over the precordium and in the axilla, most marked in the fourth space two inches to the left of the midsternum, where it was short, loud, rough and near the stethoscope; at the apex not so distinct. A short middiastolic murmur at the apex. Precordial tenderness. Pulse at the apex equal to that at the wrist, i.e., absolutely irregular. Blood pressure 155/70. Abdomen tender in the right upper quadrant. A mass descending on respiration felt near the level of the umbilicus. Tenderness in the hypogastrium to the left of the midline. Ears, two small oval scars below and posterior to the tip of the malleolus. Marked pitting edema and some tenderness of the lower third of the legs. About the ankles prominent swellings, probably fat plus fluid.

Urine: amount normal when recorded, cloudy at four of seven examinations, alkaline at two, specific gravity 1.015 to 1.025, rare red cells and rare leucocytes at two sediment examinations. Blood: 5,400 to 13,500 leucocytes, polynuclears 66 to 90 per cent., hemoglobin 60 to 80 per cent., reds 2,680,000 to 3,500,000, some anisocytosis, poikilocytosis and achromia, platelets normal.

Temperature 97.1° to 101° until February 4, afterwards elevated, 98.4° to 104.4°, with daily swinging and a terminal rise to 106.8°. Pulse 46 to 100.5. Respirations 20 to 50.

January 6 a heart consultant reported, "... The lungs show many scattered squeaking râles, probably due chiefly to an acute respiratory infection, recent only. However, there have been also signs of congestive failure, now less after digitalization. Her reserve is probably low but possibly sufficient for a few years to come. There is no question but that today there is a mitral diastolic murmur—a short rumble. ..."

The patient was given X-ray treatments and was put on the Murphy-Minot diet. The skin condition improved. With the rise in temperature early in February she did not feel well, but complained only of feeling cold. She had a little pain beneath the right shoulder blade at times. The lungs were normal except for moist râles at the bases as at admission. The heart showed no friction rub. The patient had some retching. February 12 although disoriented she seemed better and fairly comfortable. The right leg was somewhat swollen and tender. Infection had apparently started in the right heel, where the skin was broken. February 15 she began to cough. The right leg had quieted down. The lungs showed moist râles throughout. The respiration had been up to 50 accompanying peaks in the temperature curve. The skin had separated from several new places at the sites of lesions on the hips and buttocks.

February 17 the temperature was 107°, rectal, the pulse 100 and strong, the respiration 40. That evening the patient died.

DISCUSSION

BY RICHARD C. CABOT, M.D., AND

E. LAWRENCE OLIVER, M.D.

NOTES ON THE HISTORY

"She had felt her heart 'turn over'." That is presumably extrasystole.

This is a very obese old woman with evidences of poor heart action, the most important fact in the case from the point of view of internal medicine being absolute arrhythmia, undoubtedly due to auricular fibrillation. With that we have evidence of an enlarged heart, a somewhat elevated blood pressure, and some edema of the lungs as well as of the legs. All of this probably points to the type of cardiac disease which we call hypertensive or arteriosclerotic. The urine does not show anything, or the blood, and the rest is the skin condition which we shall ask Dr. Oliver about presently.

There is nothing in the second clinical examination to change any opinion we had formed before. I assume these fibromyomata had nothing to do with the case.

NOTES ON THE CLINICAL EXAMINATION

A short middiastolic murmur at the apex is important if true.

The blood pressure is essentially as before. There is a slightly higher systolic pressure.

The mass felt was presumably the liver. But although she has lost some weight I take it she is still very fat and so it is hard to feel.

The reds show a very distinct change at the time of the second entry.

The chart is fairly normal in the beginning, with a low pulse. Then it begins to be higher, and is high at the end,—a little over two weeks' continued fever.

The Murphy-Minot diet is the type given for pernicious anemia, but also used experimentally in a great many other anemias now.

DIFFERENTIAL DIAGNOSIS

On the part of the heart, if it had not been for the examination by the cardiac consultant I should have said we have nothing but hypertrophy and dilatation with some arteriosclerosis. But with that murmur we certainly have to suspect a mitral stenosis. I do not know what else to say than mitral stenosis, though I still do not feel sure of it. We have an absolute arrhythmia, which goes with mitral stenosis. Nothing is said about the quality of the first sound, often changed in that disease, or about any doubling of the second sound. It is unusual to see mitral stenosis lasting to sixty-seven, but it is not unprecedented. At twenty she did have rheumatism. If that was acute polyarticular we should have a basis for the possible diagnosis of mitral stenosis. The striking thing is that she has had so little in the way of cardiac symptoms.

I do not think she died of her heart trouble. I think whatever she had in her heart is a minor diagnosis. I think she died of sepsis. I take it that her anemia was of the septic type. Though the hemoglobin is high there is said to be achromia. Of course there cannot be achromia if there is a high hemoglobin. If the two contradict it is safer to take the observation under the microscope. This sepsis we have every reason to suppose is connected with the skin lesions.

I should say, then, that she died of sepsis originating in the skin lesions, with or without a demonstrable blood or cardiac infection; that she probably had a mitral stenosis with a hypertrophied and dilated heart, and passive congestion of the internal organs. Now, Dr. Oliver, will you tell us about the dermatological conditions?

DR. E. LAWRENCE OLIVER: The history of the skin trouble in this case is a good deal as we should expect to find it. She had had an eruption diagnosed eczema for five years preceding the first admission. That is the history we get in many of these cases of so-called mycosis fungoides. They have various rashes, sometimes looking much like psoriasis. I have seen cases which were definitely diagnosed as psoriasis by competent dermatologists.

We might say that the eruption, so far as the skin goes, is divided into four periods: (1) The eczematous eruption, urticarial sometimes, or simulating psoriasis. They may last from one to ten years. (2) A period of infiltration, when the lesions are a little raised and sharply demarcated. (3) The stage of tumor formation, distinct large or small masses, very distinctly raised and evidently new growth of some sort. (4) The stage in which these tumors break down and become ulcerations. This fourth stage is not always reached. This woman did not have many ulcerations as I remember it, but that is probably because the disease was so well controlled with X-rays. The lesions during the last year were distinctly infiltrated, but even then they would disappear under X-ray. I think her life was undoubtedly prolonged by X-ray.

X-ray can be overdone I think. Dr. C. J. White reported a case some years ago in which he felt that the death was caused by X-ray. These tumors under X-ray in large doses may break down so rapidly as to cause toxemia and death. It is a horrible death. In many cases when the tumors begin to break down there is an odor of necrotic tissue and these patients literally begin to rot. We had a man last year who had huge sloughing areas on his arms and legs,—deep ulcers almost down to the bone. Eventually he died of septic absorption or septicemia, as this woman probably did.

The acute infection of the leg in the present case did not seem to have any connection with the skin trouble. It may have started with a

phlebitis. It was a tender swelling of the leg. No pus formed, so far as I remember. I do not think there was any incision. It gradually subsided, but the patient never rallied after that. She gradually got worse and finally began to show symptoms of a general septicemia, and I agree with Dr. Cabot that that is probably what she died of. She may have had a terminal pneumonia, but I think it was general septicemia at the end.

There has been a great deal of discussion as to whether these are cases of malignant lymphoma. It seems to me we ought to put them under the heading of malignant lymphoma and say in a parenthesis "mycosis fungoides," because it is a distinct clinical entity. It differs from the leukemias. In leukemia of the skin we do not have tumors that break down, and the course is not so long as in mycosis fungoides. I think it is fair to group all these conditions under malignant lymphoma.

In looking up the literature I found that Dr. Bowen* in 1913 reported a case which was clinically a case of mycosis fungoides. He reported it as a case of lymphoma, and said: "The similarity of this case in some respects to mycosis fungoides lends a further support to the theory that mycosis fungoides is a form of leukemia. It suggests forcibly a connecting link." I think the pathologists also feel this. They call these cases malignant lymphoma. I do not think however that dermatologists are agreed on this classification.

DR. RICHARD DRESSER: We have treated a good many of these cases of mycosis fungoides. Mycosis fungoides is really a misnomer. They respond very much as lymphomas do. We get a temporary and remarkable improvement in a number of them. Then they recur and we have to treat them again, and finally the disease gets beyond control by radiation just as the lymphomas do. The radiation treatment is merely a palliative measure.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Mycosis fungoides.
Bronchopneumonia.

DR. RICHARD C. CABOT'S DIAGNOSIS

Sepsis originating in skin lesions.
Mitral stenosis.
Hypertrophy and dilatation of the heart.
Passive congestion of the internal organs.

DR. E. LAWRENCE OLIVER'S DIAGNOSIS

Malignant lymphoma (mycosis fungoides).
General septicemia.

ANATOMIC DIAGNOSES

1. *Primary fatal lesion*

Mycosis fungoides.

*Jour. Cut. Dis. 1913, p. 613.

2. *Secondary or terminal lesions*

(Infected heel.)

Hemolytic streptococcus septicemia.

Rheumatic heart disease, mitral stenosis.

Acute vegetative endocarditis.

DR. MALLORY: I shall not try to give any description of the skin here, because the condition post mortem was rather disappointing. As a result of X-ray treatment and perhaps just because of the fact that there was no longer active circulation in the parts there was surprisingly little to see.

She did have an old rheumatic heart. The posterior cusp of the mitral valve was much shortened and the chordae tendineae were greatly thickened. On the deformed leaflet of this mitral valve was a fairly sizable acute vegetation about four millimeters in length, three millimeters in diameter at the base. Cultures from the heart at post-mortem showed hemolytic streptococci, so that the pathologic sequence is, almost certainly, infection in the heel, which is mentioned in the history; following that septicemia; localization of the organisms on the already deformed and affected heart valve; then finally death from the vegetative endocarditis.

An adenoma of the adrenal cortex was found in the body post mortem, but no lymphoblastic tumors. What has your experience of that been, Dr. Oliver?

DR. OLIVER: In the case reported by Dr. Bowen there were quite large tumors in the body, one as big as an orange. In what we call mycosis fungoides it is very rare to find internal tumors of a lymphomatous nature.

CASE 13172

RECTAL BLEEDING NOT ALWAYS DUE TO "PILES"

SURGICAL DEPARTMENT

A married Swedish laundress fifty-seven years old entered the hospital July 17 complaining of a burning feeling in the rectum and bleeding by rectum.

For a year she had been feeling below par and thought that she had lost weight and that her color was worse. She had also been troubled a great deal with pain low down in both groins. Six months before admission she noticed blood in stools. About the same time she also noticed the burning, which was worse after defecation though not troublesome during it. She also had a feeling as though her uterus were dropping down, although she had had hysterectomy sixteen years before admission. Since the onset of the bleeding she had not worked. She had been bleeding a great deal every time she went to stool or sometimes with eructations of gas. Her bowels, which had always been constipated, were

slightly more so now than a year ago and did not move at all without medication. She had a feeling, sometimes every hour, that she wished to go to stool, but there were no results. She sometimes awoke at night with a burning dull ache in the rectum.

She gave a past history of appendicitis with appendectomy at thirty-two. She had had three miscarriages at two or three months. The eldest of four living children had epilepsy. The hysterectomy already mentioned was done for questionable fibroid of the uterus. Two years after this operation, at the age of forty-three, she had adhesions removed in the old appendix scar. She had slight dyspnea and questionable night sweats.

Clinical examination showed a poorly nourished woman with loose dry skin. There was a scar on the left side of the neck above the clavicle and one firm fibrous gland. The lungs showed scattered moist râles at both apices with dullness and bronchial breathing at the left apex behind. The apex impulse of the heart was felt in the fifth space. No measurements are recorded. Action regular. Sounds of fair quality. A systolic murmur at the apex. Radials slightly thickened. Blood pressure 130/70. The abdomen showed median and right lower quadrant scars. Tenderness in the left lower quadrant. Pelvic examination showed lacerated cervix, fundus not found, vaults clear. Rectal examination showed a few small external hemorrhoids. About two inches above the external sphincter was a firm mass with a broad base extending into the rectum anteriorly on the right side and posteriorly to beyond the midline. The tip of the examining finger passing above the mass could feel a definite edge. No constriction. No blood noted.

Before operation amount of urine not recorded, specific gravity 1.015 to 1.020, a very slight trace of albumin, an occasional red and white blood corpuscle at one of two examinations. Blood: 8,000 leucocytes, 47 per cent. polynuclears, hemoglobin 45 per cent., reds 3,968,000, some central achromia. Wassermann negative.

X-ray showed no evidence of pathology in the chest.

Before operation temperature 97.2° to 99.4°, pulse 57 to 90, respiration normal.

July 21 proctoscopy was done, and July 22 operation. The patient was in moderate shock after it. She responded well to intravenous and subpectoral fluid and became very comfortable. She was unable to void, and was catheterized every eight hours. Two days after operation she complained of some abdominal pain and had slight distension. There was moderate serous discharge. The temperature was 100° to 102.2°, the pulse 100 to 131. July 25 the respiratory rate was 30. July 28 there was considerable redness and tenderness around the wound. A few

sutures were removed but no real pus was found. She continued to run a septic temperature. July 30 all the sutures were removed. Two days later the general condition was not very good. She looked pale. Her bowels were moving satisfactorily. She complained of poor sleep and urinary difficulty. She continued to have a large residual. The urine showed blood and pus. She still had pain and discomfort.

The night of August 9 she slept with morphia and showed no evident change in condition. In the morning she was found dead.

DISCUSSION

BY EDWARD L. YOUNG, JR., M.D.

A hysterectomy does not preclude a later prolapse of the cervix and the vagina, so that she might actually have had that.

This is the description of a scirrhus type of carcinoma. From the examination it is impossible to say whether it has extended beyond the wall so that it can be removed or not. They looked for and mention the question of glands because there is a so-called sentinel or pilot gland occasionally found just above the clavicle on the left, presumably coming up through the lymphatics from abdominal absorption. It sounds from the description here as though it were not suspected of being malignant.

I think this is another of those cases which we see so often here, where we have to emphasize the need of very careful examination on the first appearance of bleeding from any outlet of the body when it is not accounted for by the natural course of events. Here the bleeding has lasted six months. I saw a patient just now in whom it had been going on for two years, and who had been treated with various drugs and ointments, the diagnosis being piles. The diagnosis always is piles. Of course piles are frequently present in carcinoma of the rectum because of the interference with blood supply, and the congestion which this brings about results in dilatation of the hemorrhoidal veins.

It seems to me the only thing to offer this patient is first an exploratory laparotomy to see if there is any metastasis outside the bowel in the liver or neighboring lymph glands and whether it is locally extending through to the walls of the pelvis so that it cannot be removed. If it is inoperable then offer him a palliative colostomy. Radium will probably slow the growth. It is very apt to increase rectal tenesmus and make the patient more uncomfortable, and although there are a few cases in which the patient has gone by a three-year period without evidence of the spread of the disease, there is small hope that radium will cure. If it is operable, first the dissection of the pelvis with colostomy, then secondary Fraskes.

I do not think there is any other diagnosis that we can make on the basis of this description. X-ray examination of the chest was to rule out metastases as far as possible.

DR. YOUNG'S PRE-OPERATIVE DIAGNOSIS

Carcinoma of the rectum.

PRE-OPERATIVE DIAGNOSIS JULY 22

Carcinoma of the rectum.

OPERATION

Gas-ether. Through a low left abdominal incision the abdomen was explored. The tumor could be felt below the level of the pelvic peritoneum. There were no signs of secondary metastasis above this level. The liver was negative. The pelvis was full of adhesions resulting from the previous hysterectomy. Under these circumstances it seemed wiser to remove the growth from below. A colostomy was performed in the left lower quadrant, a portion of the sigmoid being used. The patient was then placed in the lithotomy position. The growth was found somewhat adherent and involving the glands outside the rectum. The lower rectum was excised with about three inches of the bowel above the level of the cancer. The pelvic wound was closed with drainage.

PATHOLOGICAL REPORT

A section of rectum 13 centimeters long with the anus and pararectal fat. It contains a circular superficially ulcerated growth 5.2 centimeters in greatest diameter which does not entirely encircle the lumen. Its lower margin is 4 centimeters above the anal ring. On section its base merges with the pararectal fat. A fibrous cord runs upward in the fat almost to the proximal cut end.

On microscopic examination the tissue spaces are filled with clusters of atypical mucous epithelial cells and free mucus. Sections of two lymph nodes show extensive metastatic deposits.

Adenocarcinoma, mucous type, with metastases in the pararectal lymph nodes.

ADDITIONAL POST-OPERATIVE NOTES

July 24 the colostomy was opened. The general condition was surprisingly good. There was moderate serous discharge from below. July 26 there was slight fecal discharge and a moderate amount of gas through the tube. July 29 the Mixer tube came out. The glass rod was put back. Wick number 1 was removed. August 6 she had what appeared to be a bowel movement from below.

FURTHER DISCUSSION

Occasionally with the patient in very good condition the whole thing can be done in one

stage, but it is a good deal to make any person undergo. The double type of operation under these conditions is the only thing that can be done.

With the disease outside in the perirectal lymph nodes the chances of cure are not very good, but the operation is abundantly justified, because the growth in this position results in a great deal of rectal tenesmus, and if left *in situ* the patient suffers almost as much as though nothing at all had been done. So that the removal of the growth is amply justified not only in the increase of life but in the increase of comfort while the patient does live.

Inability to void urine is a common complication after this operation.

Dr. Richardson will presumably tell us that there was pulmonary embolism. There was a great deal of interference with the pelvic veins in that region, and with sepsis thrombosis is more likely to occur. And just because we have nothing to do but guess, on the theory of chances I think pulmonary embolus will answer it.

DR. RICHARDSON: What was the urinary condition?

DR. YOUNG: It was simply retention. The urine showed blood and pus. There is no record of the date when that was first seen.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Carcinoma of the rectum.

Pylonephritis.

Combined operation for carcinoma of the rectum.

DR. EDWARD L. YOUNG'S DIAGNOSIS

Carcinoma of the rectum.

Pulmonary embolism?

ANATOMIC DIAGNOSES

1. *Primary fatal lesion*
(Carcinoma of the rectum.)
2. *Secondary or terminal lesions*
Purulent cystitis, ureteritis, pyelitis and suppurative nephritis, double.
3. *Historical landmarks*
Operation wound.
Chronic peritonitis.
Scar of old operation wound.

DR. RICHARDSON: The incision was restricted in this case, but we found out all that is necessary to know. There was an old operation scar in the anterior abdominal wall from the pubes upward, and the scar of a recent wound on the left side in the central portion of which the sigmoid was sutured. Between the buttocks there was another operation wound.

The peritoneal cavity contained a small amount of thin pale clear fluid. No peritonitis was found. There were some very pale old membranous adhesions between the omentum, the

colon, and the anterior parietal peritoneum. The uterus and adnexa were wanting; presumably these were the adhesions which came after the old operation. The appendix was wanting. There was a stump in the region of its base. The stomach, intestines, mesenteric and retro-peritoneal glands other than mentioned were negative.

The liver margin was at the costal border. The organ was frankly negative.

The thoracic organs were not permitted to examine, but we can say there was no evidence of pericarditis or of pulmonary artery obstruction.

The pancreas, spleen, and adrenals were negative.

The trouble was in the kidneys. The kidneys were slightly enlarged. The capsules stripped, leaving surfaces dotted over with small abscesses. The tissue was plump, swollen, wet, with streaks of purulent infiltration. The pelves were slightly dilated and the mucosa discolored and coated with exudate. The ureters were slightly dilated and contained purulent semi-fluid material. The mucosa was coated with exudate. The mucosa of the bladder was generally swollen, purplish-brown-red, and coated with exudate. The ureters opened freely into the bladder.

DR. YOUNG: That was an acute process. It is a very unusual thing to come on so rapidly following catheterizing.

DR. RICHARDSON: No metastases were found. It was a hard case to lose.

THE EXHIBITION OF THE THREE APPROVED PLAYS

ANNOUNCEMENT has just been made by the judges of their decision in making the three awards in the third National Health Playwriting Contest, conducted in this state by the Massachusetts Tuberculosis League.

The three plays chosen were, "A Dream Come True," by Gertrude Sullivan of Nazareth High School, South Boston; "Six Months" by Eleanor Herbert of B. M. C. Durfee High School, Fall River; "Today's Court of Honor," by Elizabeth W. Higgins of Mary E. Wells High School, Southbridge. Honorable Mention was given to the Play "Dr. Skip," by Marguerite Gilhooley of the Salem Classical High School.

The three winning plays will be presented at the Copley Theatre, through the kindness of Director E. E. Clive on Friday afternoon, April 29, at 3:30 o'clock. Following the presentation they will be submitted to the National Tuberculosis Association as entries in the nation-wide contest.

The judges, Mr. E. E. Clive of the Copley Theatre, Dr. John B. Hawes, 2nd, President of the Boston Tuberculosis Association, and Mr. Carl Schrader, Director of Physical Education, State Department of Education, considered

these plays in this third annual contest in the Commonwealth of a higher standard than those of previous years.

The public is cordially invited to this presentation of the plays at the Copley Theatre, Friday, April 29. Tickets will be only thirty-five cents which will about cover the cost of production and may be obtained from the Massachusetts Tuberculosis League, 1149 Little Building, Boston, Massachusetts.

LACK OF DOCTORS IS FELT IN RUSSIA

DESPITE the fact that about 5,500 physicians and 1,300 dentists are on the unemployment lists in Russia, the country districts of the Soviet Republic are suffering from a serious shortage of medical care.

At least one-third of the places open for doctors in the provinces are unfilled, the principal reason for this situation being the refusal of young physicians, especially the women, to accept posts in the country. Another cause is lack of the funds needed by the State for the proper development of its medical service in rural districts.

When this condition was clearly revealed at the Congress of the Medical Section of the Union of Medical Workers in Russia, held recently in Moscow, it drew sharp protests from the trade union leaders and the representatives of the Commissariat of Health, and it was stated that in the future the Commissariat of Labor would cut off the allowance of any doctor who refused to take a place in the country.

That the life of the country doctor in Russia is a hard one was admitted by every speaker at the Congress. Not only is he compelled to live on an inadequate salary, but his work is constantly being interfered with, as well, by the local Communist Party, Soviet and trade union authorities. Numerous cases were cited at the Moscow Congress where the local soviets had taken upon themselves the authority to decide questions clearly within the doctors' province and to oblige them to carry out their instructions.

The country doctors are also annoyed by false accusations and frequent arrests, most of which are merely due to the ignorance of the peasants, who are inclined to regard the doctor either as a miracle worker or as an agent of the evil one. In 1926 there were 206 prosecutions of physicians, nearly all of which were found to be baseless. Of the forty-five branches of the doctors' trade union, only nineteen did not record cases of prosecution of members.

During the discussion of the low wages paid by the State to the doctors (the average salary per month being \$46 for the city and \$38 for the country), which are only about half of those received by the technical expert, according to the President of the All-Russia Central Council of Trade Unions.—*New York Times*.

THE BOSTON Medical and Surgical Journal

Established in 1828

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SHALL THE MEDICAL PROFESSION ABANDON THE PRACTICE OF PRESENTING ARGUMENTS WITH RESPECT TO PUBLIC HEALTH MATTERS WHICH MAY BE UNDER CONSIDERATION BY THE LEGISLATURE?

Bills presented to the Legislature are referred to Committees for consideration. These Committees conduct hearings and ask for the expression of opinions for and against the bills some of which relate to public health matters.

The Massachusetts Medical Society has elected from time to time a Committee on State and National Legislation. The especial functions of this Committee as set forth in section 6, chapter 7, of the By-Laws are as follows:

"It shall oppose such measures as it may deem contrary to the public welfare and favor and initiate measures which promise to advance a higher standard of medicine and promote public welfare."

This Committee has regularly appeared before committees of the legislature whenever matters relating to public health and such other matters of public welfare as may be affected by medicine are being considered. The work of the Committee has been inspired by the purpose to

impart information to the members of the Legislature upon matters concerning which the profession is qualified to discuss. This Committee has never employed legislative agents but has confined its work to arguments before committees, personal interviews and the distribution of literature. It has never countenanced trading, so-called, for the purpose of influencing votes. Although operating under by-law and commission by election, the work of this Committee is not unanimously endorsed by the members of this Society. This is not meant to convey the impression that specific acts are not approved, but that the general policy of presenting arguments before the committees of the Legislature is not unanimously endorsed, because the advocacy or opposition of specific recommendations is considered to be undignified and belittling the prestige of scientific medicine. Several prominent doctors are of the opinion that the people should be allowed to have such legislation as may be secured through their Representatives even though it may not be for the welfare of the public. One influential member of the Society has sent in a letter received by him which sets forth these ideas as follows:

"Apropos of the passing of the recent chiropractic bill and of some experience which the writer has recently had with legislation on Beacon Hill, the question of the advisability of the Massachusetts Medical Society going to Beacon Hill with the idea of influencing the Legislature outside of matters relating to public health seems to the writer to be very questionable.

"For many years organized medicine opposed the recognition of the homeopaths, with the result that homeopathy was more generally advertised than it could have been in any other way, and all our efforts had no influence against the enactment of legislation favorable to their cause. Today, they cease to exist as a separate cult. The same might be said of osteopathy and will probably be repeated in the case of the chiropractor.

"Now, then, what happens when a representative of the Massachusetts Medical Society attempts to oppose special legislation of this kind? As a Representative said to me, such medical gentlemen are looked upon by members of the House as trying to influence legislation in order to safeguard the interests of organized medicine, and, practically, they have very little influence except among the very few. On the other hand, members of the Legislature are flooded with letters from the laity earnestly upholding such cults and citing remarkable cures which they believe they have experienced. This testimony is looked upon as unprejudiced and, therefore, of weight. The result is that we succeed in giving publicity to the so-called irregular and excite in the public mind a feeling that we are narrow and prejudiced. This position these peculiar people take advantage of and refer to us as a medical trust who are opposed to anything which we do not dominate, and succeed in making a large number of people believe that this is the truth.

"Therefore, our efforts on Beacon Hill have resulted in helping the other side and undermining our influence with the public, and with a lowering of the dignity of the medical profession and of the Massachusetts Medical Society. Is it not a fair question to ask if these various outcroppings, which are but the emphasis of some one phase of medicine, are not the way in which medicine broadens out and grows?

Every cult has some idea worthwhile, and it is only by overemphasis that it is finally included in our armamentarium. It is common knowledge that advice is worth about what it costs, and would it not be to the dignity of the profession if we ceased to advise in matters where our advice is not wanted and where the reaction is so unfortunate, and confine ourselves strictly to matters relating to public health, where our motives cannot be questioned? We see our own intimate friends and associates doing things which we know will end in disaster, but most of us are rather chary about giving them advice unless they show a desire for it."

We would like to have the writer inform us as to his definition of "public health." Every thing relating to the regulation of medical practice is generally regarded as pertaining to public health. Every practitioner is to some degree a factor in public health administration. The patient suffering with the prodromal symptoms of a communicable disease who may go to a cultist introduces a public health problem to that practitioner. Some cultists solemnly assert that they can cure communicable diseases, and it is within the memory of most of us that many cultists have denied the existence of the bacterial origin of disease.

The reference to homeopathy does not seem well taken for the questions of that day were long ago dropped and were significant only because the origin and treatment of disease at that time were largely matters of empiricism. Today science dominates medicine. We know that manipulation of the spine can exert no remedial influence on the progress of small pox or diphtheria, but if we should stand idly by and let the cultists have free play without reasonable protest, we would condone the error which might cause deaths and all because of our so-called dignity. Does our correspondent know that a plain recital of facts influenced certainly the action of three Senators on the subject of vaccination and several more on the recent chiropractic vote? If a few members of the legislature have been led to see the truth, something has been gained.

When the Representative made his argument to our correspondent that the efforts of the committee were inspired by selfish motives he opened the way for a loyal member of the Society to show him that not one of the advocates of a single standard of fitness to practice medicine in this State would profit directly or indirectly by the elimination of those who would practice under special or class legislation. Let our friend talk with the more intelligent members of the legislature and he will find that they learn and are glad to learn facts which could not be known except through voluntary advice. When any one claims that the influence of scientific medicine is undermined by honest and intelligent arguments before committees, we take issue with him. The influence and standing of scientific medicine is growing and cannot be diminished by publicity. Let our friend appraise the enormous amount of work done in the

hospitals of the state and then compare that with the practice carried on by the combined cultists and give the results of his study. It will convince him we are sure that only a part, and a small part too, of the people can be fooled for any great length of time. His logic is at fault when he says that one cult after another will disappear if we let them alone. They will disappear only because the evidence will not long sustain their claims. Of course extravagant claims and advertising will sell any product for a time to a certain number, but in the business world it is considered good practice to expose false claims. The Boston Chamber of Commerce is doing it. Why not the Medical Profession along the lines within the sphere of its understanding of service to humanity?

This reasoning that the people must be left to learn of error through experience if applied to all phases of education would leave children to learn that fire is a menace to life, or the young man to expose himself to the menace of venereal disease. Many adults are only children grown tall and need protection from ignorance or folly.

When danger to our fellow creatures exists, our loyalty to so-called dignity may be reprehensible. But with all this, if our reasoning is not sound or if there is any fixed opinion that the Committee should retire from the State House, let that be known to the Committee. The critics ought to ask the Council to take cognizance of their attitude and relieve those who have carried the burden from the responsibility imposed by the by-law.

THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

LAHEY, FRANK H., M.D. Harvard Medical School 1904, F.A.C.S.; Surgeon to the New England Deaconess and the New England Baptist Hospitals. His subject is: "Cholecystitis. The Cholesterol Gall Bladder, and Silent Gall Stones." Page 677. Address: 605 Commonwealth Avenue, Boston.

BIGELOW, GEORGE H., M.D., Harvard Medical School 1916; Doctor Public Health 1921, now Commissioner of Public Health for Massachusetts. Abstract of his address is on page 684. Address: Room 546, State House, Boston, Mass.

GREENOUGH, ROBERT B., B.A., M.D. Harvard Medical School 1896, F.A.C.S.; Assistant Professor of Surgery Harvard Medical School, Director Cancer Commission of Harvard University; Visiting Surgeon Massachusetts General Hospital, Surgeon in Charge Collis P. Huntington Memorial Hospital, Boston. His subject is: "The Special Cancer Hospital." Page 685. Address: 8 Marlborough Street, Boston.

WHITE, PAUL D., A.B.; M.D. Harvard Medical School 1911. Chief of Cardiac Clinics and Laboratory, and Associate in Medicine, Massachusetts General Hospital. Instructor in Medicine, Harvard Medical School. His subject is: "The Incidence of Heart Disease in Massachusetts." Page 689. Address: Massachusetts General Hospital, Boston.

JOESS, MARK H., M.D., Tufts College Medical School 1920; Assistant Physician Rutland State Sanatorium. His subject is: "The Use of Artificial Pneumothorax in Pulmonary Tuberculosis." Page 693. Address: Rutland State Sanatorium, Rutland, Mass.

BUCK, ROBERT W., A.M.; M.D. Harvard Medical School 1921; Associate Chief of Medical Department and Chief of Health Clinic Boston Dispensary, Assistant in Medicine Massachusetts General Hospital. His subject is: "Notes from a Health Clinic." Page 697. Address: 475 Commonwealth Avenue, Boston.

LEGISLATIVE NOTES

DEFEAT OF THE BILL TO PROVIDE LICENSURE OF CHIROPRACTORS

THE Legislative Committee desires to take advantage of this opportunity to express its appreciation to all the members of the Massachusetts Medical Society who assisted in its campaign against the passage of the Chiropractic Bill.

On Thursday, April twenty-first, the House defeated the bill which was designed to license chiropractors. During the discussion on the floor of the House, the galleries were crowded and the chiropractors applauded vigorously the remarks of the Representatives who spoke in favor of the Chiropractic Bill. The presiding officer was obliged to notify those disturbing the meeting that unless they refrained from applause he would have the galleries cleared. The defeat was brought about in all probability by the persistent campaign of education which brought to the attention of members of the legislature the desirability of maintaining a single standard of fitness to practice medicine in this State. The bill, if enacted, would have been an endorsement of a form of class legislation. The credit for the defeat of the bill may be in large part due to the committee on legislation and the response of the medical profession throughout the State. Those members of the House of Representatives who felt that the best interests of the people of the State would be met by adverse action are to be congratulated.

The campaign, under the leadership of Dr. J. S. Stone ably seconded by Dr. Thomas J. O'Brien, was dignified in every way. There is nothing to regret in the methods employed. At

almost the last minute the advocates of the bill asked Dr. Stone to agree to a compromise which was in substance permission for chiropractors now in the state to be registered but for all subsequent applicants to meet the provisions of the present law relating to registration of all practitioners of the healing art. Dr. Stone resolutely refused to agree to any compromise.

The contest is over for this year and we hope that Massachusetts has adopted a permanent policy relating to the practice of medicine.

Texas has within a few weeks taken the same stand but has higher educational requirements that we have been given by our legislature. The next step should be the raising of the requirements for premedical studies of all who are to be permitted to take the State Board examinations.

MISCELLANY

EXCERPTS FROM THE BULLETIN OF THE DEPARTMENT OF HEALTH OF NEW YORK CITY

THE RIGHT TREATMENT AT THE RIGHT TIME

THE promptness with which a correct diagnosis is made and proper treatment instituted are the two most important factors in preventing death as well as complications in the acute infectious diseases.

There is no logical reason why anyone ill of an acute infectious disease in this city should not secure prompt and proper treatment.

The importance of proper treatment promptly given is shown by the record of 142 deaths from Diphtheria that occurred within forty-eight hours after admission to Willard Parker Hospital.

In 101 cases of the 142 that died within 48 hours after admission, the parents delayed sending for a doctor and in 67 cases the doctor delayed in arriving at a diagnosis and administering antitoxin. Together, there was an average delay of 2.5 days before the patients received the correct treatment. This shows how a short delay caused the difference between life and death.

A correct diagnosis of the disease and a correct determination within the first 24 hours of the infection, of the conditions which make adequate medical care impossible are imperative if these preventable deaths are to be checked.

The right time to administer antitoxin for diphtheria is within the first 24 hours. One hundred and two cases were admitted to the Willard Parker Hospital last year and treated with antitoxin on the first day of illness with only one death, and 187 on the second day with 9 deaths. The rapidly increasing mortality proves the cost of every day's delay.

If there is a membrane visible in the throat, antitoxin should be administered promptly. We

should not wait for the result of a culture to confirm the diagnosis.

The time to begin the treatment of scarlet fever is during the first 24 hours. Toxic cases are always attended with a high mortality and should receive the benefit of antitoxin promptly.

The treatment of measles should be begun before the rash appears. Ninety-three per cent of the deaths are due to broncho-pneumonia and proper treatment instituted early prevents broncho-pneumonia. Convalescent serum lessens the severity and shortens the course of the measles infections.

THE MENACE OF THE STRAY DOG

LAST year there were sent to the New York City Health Department Laboratories 888 animals to be examined for rabies. Of this number, 462 proved to be rabid—an increase of 377 over the year 1925. Of these 462 mad animals, 128 were classed as stray dogs, since they had no marks of identification on them and no one claimed them. Of the 334 with owners, a number of them were running amuck when they first showed symptoms of rabies; others were known to have been bitten by stray dogs.

It is interesting to note that the majority of these strays were found nearer the outskirts of the city than near the centers. This fact, however, is not proof that the dogs came from the country outside of the city, since dogs have been known to run many miles in their beginning periods of excitation when the rabies virus starts to act. Just recently, a dog whose owner lived in the lower East Side was found running mad on Amsterdam Avenue—several miles away.

We all must realize that there are many excellent reasons for having no stray dogs, still as we are continuing to have them, it must be that either we don't know how to get rid of them or that we are neglecting a civic duty.

In the rabies records of the Department Laboratories we get, again and again, histories that teach us to handle strays with caution.

This brings up the point of the comparative danger from cats and dogs. As compared to dogs, cats are of little danger in disseminating rabies. The reason is that cats when infected by the rabies virus commonly develop what we call paralytic rabies, that is, they do not run wild and bite, but become quickly weak and then paralyzed and simply lie down and die. When, as infrequently happens, the cat does develop the furious form of rabies, it may become exceedingly dangerous because of its scratching as well as biting.

When savage dogs and savage mad dogs at large have bitten horribly one person or many, make us urge our plea to get rid of stray dogs. We cannot reiterate too often that if stray dogs vanish, with them would vanish not only the

fear of the savage dog, danger to our gardens, and the nastiness of the uncontrolled dog about our doorsteps, but—and far more important—we would get rid of the fear of rabies and rid also of the necessity of the only preventive we have—the Pasteur Institutes, with their vaccinations of both man and dog.

RECENT DEATHS

SAWYER—DR. WILLIS HERBERT SAWYER, a graduate of New York Homeopathic Medical College and Flower Hospital, New York, in 1888, died at his home in Dorchester, April 8, 1927, aged 64 years.

KENT—DR. BRADFORD KENT, long time an efficient secretary of the Norfolk District Medical Society, died at his home in Dorchester, April 8, 1927, at the age of 50.

He was born in Columbus, Ga., October 29, 1876, the son of Warner Robert Kent and Amanda S. (Bradford) Kent. His father was a major in the Confederate army. Bradford was graduated from Harvard Medical School in 1902 and served as house officer at Boston City Hospital.

Dr. Kent was secretary of the Norfolk District Medical Society from 1909 to 1924, and for many years was secretary of the Physicians' Club of Dorchester, which he founded November 7, 1905. His ingratiating manners and tact endeared him to a large circle of physicians.

He was on the teaching staff of Tufts College Medical School. For a long period he was visiting physician at the Boston Consumptives Hospital. He also was one of the school physicians of Boston. He joined the Medical Reserve Corps of the Army in 1918.

He was a member of Rabboni Lodge of Masons and St. James Episcopal Church, Roxbury.

He is survived by his widow, Jeanne (Hunter) Kent, whom he married in May, 1924, and by two brothers and two sisters. Always a hard and tireless worker, beloved by all who knew him, his death is deeply regretted by a host of friends and associates.

KELLOGG—DR. EDWARD BRINLEY KELLOGG died at his home in Boston, April 9, 1927, at the age of 76.

The son of Elliot E. and Hannah B. Kellogg, he was born in Sheboygan, Wis., August 21, 1850, and was educated at the Burr and Burton Seminary, Manchester, Vt., Munda (N. Y.) Academy and in the Medical Department of Bowdoin College, where he received an M.D. in 1882. Settling in Boston, he was associated with the late J. Foster Bush, M.D., joining the State medical society in 1883. He had been medical director of the John Hancock Mutual Life Insurance Company for many years.

Dr. Kellogg was a trustee of the Boston Penny Savings Bank, editor and organizer of the Jacksonville Union of Florida, a member of the Algonquin Club and Boston Press Club.

In 1879 he married Miss Minnie Bradbury, who, with a son, Foster Kellogg, survives him. Mrs. Kellogg has long been prominently identified with the New England Peabody Home for Crippled Children, of which she is honorary president, and is active in patriotic work, having organized Liberty Tree Chapter, D. A. R., in January, 1916, and has ever since been its regent.

OGDEN—DR. JAY BERGEN OGDEN, medical chemist and assistant medical director of the Metropolitan Life Insurance Company, has died at Forest Hills Gardens, Long Island, N. Y., at the age of 58.

He was born in West Sparta, N. Y., August 5, 1868, the son of Charles Wheeler and Elizabeth Bergen

Ogden. He attended Munda Academy, the Genesee State Normal School and Harvard Medical School, obtaining his medical degree in 1893.

On graduating Dr. Ogden served as house officer at Boston City Hospital, then as assistant in chemistry at Harvard Medical School, also as assistant clinical pathologist at the hospital where he had been house officer, and medical chemist at the Children's and Carney hospitals. Up to 1905 he was instructor in chemistry at Tufts College Medical School. In that year he moved to New York and organized the chemical laboratory of the New York Mutual Life Insurance Company. In 1900 he had published "Chemical Examination of the Urine and Urinary Diagnosis," a second edition of which appeared in 1903.

Dr. Ogden was a Fellow of the Massachusetts Medical Society, and a member of the Society of the Genesee and of the Harvard Club. He is survived by his widow.

PRIOR—DR. CHARLES EDWIN PRIOR, Chairman of the Massachusetts Board of Registration in Medicine, died at his home in Malden after an illness of several weeks, April 20, 1927, aged 71.

He was born in Kittery, Maine, August 24, 1855. He was graduated from Harvard in the class of '77, and the Harvard Medical School class of '82, and had practiced in Malden for thirty-five years. He was elected a member of the Malden Board of Health in 1909, and two years later was made chairman of the board. He held this post until 1923, resigning to connect himself with the State Board of Registration in Medicine, of which he was chairman for a time, later becoming secretary and then chairman again. He joined the Massachusetts Medical Society in 1881, resigning in 1925 in order that he might retain his position on the Board, the law requiring that no more than three members shall belong to any chartered medical society.

During the World War, Dr. Prior was major in the Home Guard. He belonged to Stirling Lodge of Masons and all the other local branches of that fraternity, and he had passed through the chair of all of them. He was also a member of the Ancient and Honorable Artillery Company, a trustee of the Holbrook Public Library and visiting surgeon to the Malden Hospital.

He was twice married. He is survived by his second wife, who was Alice A. Bailey, a tuberculosis nurse in Malden; and a son by the first marriage, Everett Prior of Baltimore, Md.

OBITUARY

ARTHUR BRYANT WETHERELL

DR. ARTHUR BRYANT WETHERELL was the son of Barney and Adelia M. (Stedman) Wetherell, born February 2nd, 1855, in Southampton, Massachusetts. He attended the local schools and Academy and then after a course at Williston Seminary at Easthampton, Mass., entered Harvard Medical School where he graduated in the class of 1883. The following two years he spent in the clinics and hospitals of Boston and for a while was associated with the State Board of Health (as I understand some year or 1½ yrs. in the department of Contagious diseases). In April, 1886, he located in Holyoke, Massachusetts, and since that time until his death has been prominently identified with the practice of medicine and public health work in that city. This has meant 41 years of public service here.

He was actively instrumental in the organization and the establishment of the Holyoke City Hospital many years ago (which is now a rather active hospital of over 150 beds) and has been a member of the visiting staff, later on the consulting staff, until he retired, because of the age limit to staff membership. He was a member of The Holyoke City Board of Health from and during 1897 to 1911, some 15 years. During this time he was active and influential in the organizing and building of both the city tubercular and the city contagious disease hospitals. He did most of the industrial surgery in Holyoke for ten years along from 1900 to 1910. In the more recent years, because of the need to conserve his strength, he has been less active in practice, though he was seeing and caring for patients up to the time of his death. He was a delightful man, and though he was rather quiet and retiring, he made many friends both socially and professionally. Those whom he served professionally seemed to love him much and considered him one of "The Good Physicians." He died Friday, March 18th, 1927, death being due to Angina Pectoris. The end was rather sudden. He was buried in the family lot at Forestdale Cemetery at Holyoke, Mass.

December 28, 1887, he married Ermine Davis, born in Taunton, Mass.

He leaves his wife, and two children, one, Bryant Wetherell, M.D., in Urological work in Boston, and Mrs. Marion Davis, who is living with her husband at Cleveland, Ohio.

He was a member of the Holyoke Medical Society, the Mass. Medical Society, The American Medical Association, and the Harvard Medical Alumni Association, and many local clubs and societies, such as Knight Templar Masonry, Shrine, Odd Fellows, Knights of Pythias, Holyoke Club, Mt. Tom Golf, Holyoke Canoe Club, etc., etc.

We all thought a great deal of Dr. Wetherell. He was a delightful man. His home and family life is said to have been a particularly charming experience. His son, Bryant, is associated with Dr. Chute in Boston.

GEORGE DALLAS HENDERSON, M.D.

CORRESPONDENCE

SOCRATES AND THE WOULD-BE PHYSICIAN

April 6, 1927.

Editor, Boston Medical and Surgical Journal:

In Zenophon's "Memorabilia" I found some remarks made by Socrates in order to make ridiculous a man who went into politics without training. In these remarks he compared the would-be statesman to a man who applied for a physician's license without any training in medicine. The remarks which Socrates put into the mouth of this man correspond so exactly with the pretensions of the chiropractor that I thought the quotation might interest your readers:

"Men of Athens, I have never yet studied medi-

cine, nor sought to find a teacher among our physicians; for I have constantly avoided learning anything from the physicians, and even the appearance of having studied their art. Nevertheless I ask you to appoint me to the office of a physician, and I will endeavor to learn by experimenting on you."

Very truly yours,

FRED B. LUND.

A SMALLPOX INOCULATION CERTIFICATE

April 5, 1927.

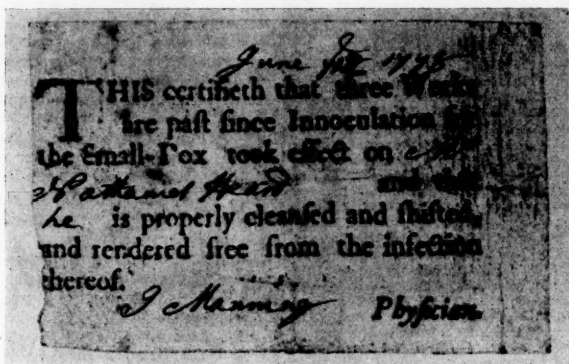
Editor, Boston Medical and Surgical Journal:

Enclosed please find a photostatic copy of a vaccination certificate which Mr. Edmonds, Director of the Archives Division, was kind enough to send me.

THE CHILD IS FATHER TO THE MAN

Few probably of our readers are familiar with a ponderous volume of 1,663 pages entitled "Defects Found in Drafted Men" compiled in the Office of the Surgeon General of the Army and issued by the Government Printing Office in 1920. It cannot be recommended, even to the most serious minded, as light summer reading. Yet it is a vast storehouse of facts, collected from the records of the physical examinations of 2,753,922 men under the age of 31, and is an enduring monument to the scientific zeal and tireless industry of the authors and compilers, Lieutenant Colonel Albert G. Love, Medical Corps, U. S. A., and his assistant, Major Charles B. Davenport, Sanitary Reserve Corps, U. S. A. The manysided importance of this anthropological thesaurus is well stated in the introduction:

"It is important from the standpoint of social and



I thought you might be interested to publish at least the wording of it in the JOURNAL, but I hesitate a little since the opponents may say that Mr. Nathaniel Heard, the recipient of vaccination, who is, I presume, undoubtedly dead, was killed by this procedure.

Yours truly,

GEORGE H. BIGELOW, M.D.,
Commissioner of Public Health.

THE WELLCOME PRIZE

Editor, Boston Medical and Surgical Journal:

The Association of Military Surgeons is offering the Wellcome Prize of \$500 and a gold medal for the best essay upon a subject which, I am sure, should be of a great deal of interest to the New England Pediatric Society, which I believe is one of the societies of which the BOSTON MEDICAL AND SURGICAL JOURNAL is the organ. I am sending you copies of a leaflet showing the conditions for this prize and some editorial remarks about it which appeared in *The Military Surgeon* for April. Would you be good enough to call the attention of the members of the New England Pediatric Society or other persons who may be interested in this matter to the fact that this prize is being offered? Anyone can compete for it who has ever held a medical officer's commission in either the National or State services.

Sincerely yours,

J. R. KEAN, Colonel, U. S. Army, Retired,
Editor of *The Military Surgeon*.

industrial life, since it gives some insight into the availability of this population for the various occupations which our social organization requires. It has social-medical bearings, since it indicates the physical and medical status of our population in different parts of the country under different sanitary conditions and with varying opportunities of medical and surgical treatment. It has important military bearings, since it indicates the proportion of men available for military service of different kinds. It has a social-therapeutic bearing, since it indicates the size and nature of the task before those who would seek to improve by better conditions the physical and mental standing of our population. Finally, it has a biological and eugenic significance in so far as it reveals the inherent failures in man to make complete adaptation to the rapidly advancing requirements of a highly artificial civilization, in so far as it throws light upon the constitutional limitations of the various races to meet the conditions imposed by that civilization, and in so far as it throws light on the influence of military selection on the breeding stock of the next generation."

The data contained in this great work and in the much smaller volume, Bulletin No. 11, S. G. O., by the same authors, which preceded it by two years, will be of basic importance to those who feel inclined to enter into competition this year for the Wellcome Medal with its increased prize of \$500, the subject and conditions of which are to be found on the inside back cover of this magazine. What more fasci-

nating study could there be for an orthopedist, a hygienist, or an anthropologist than to trace back many of these defects in our young men to their ineptness in childhood, and to consider how by proper conditions of environment and training they might have been prevented or corrected. The medical inspectors of schools, who are students of a science as well practitioners of an art, will have here their opportunity. Even the eugenist may have his innings here, for though we may smile indulgently at his impracticable conditions, who can say in these days of revolutionary changes that the dreams of today may not be the realities of tomorrow?—*Editorial in The Military Surgeon for April, 1927.*

THE HENRY S. WELLCOME MEDAL AND PRIZE

The competition is open to all medical officers, former medical officers, acting assistant and contract surgeons of the Army, Navy, Public Health Service, Organized Militia, United States Volunteers, and of the Reserves of the United States, and commissioned medical officers of foreign military services.

Competition for 1927 will include essays, investigations, discoveries, reports of research or laboratory work on a prescribed subject, as follows:

A gold medal (including cash prize of \$500) will be given for the best paper on the subject:

"In Consideration of the Physical Disabilities Found in the Drafted Men and Volunteers of the World War, What Practical Hygienic Measures Are Advisable for School Children in the United States?"

Each competitor must furnish five copies of his competitive paper. Papers must not be signed with the true name of the writer, but are to be identified by a nom de plume or distinctive device. They must be forwarded to the Secretary of the Association of Military Surgeons of the United States, Army Medical Museum, Washington, D. C., so as to arrive at a date not later than September 1, 1927, and be accompanied by a sealed envelope marked on the outside with the fictitious name or device assumed by the writer and enclosing his true name, title and address. The length of the essays is fixed between a maximum of 10,000 words and a minimum of 3,000 words, it being understood that if laboratory reports or other reports of investigations or professional work, not essays, are submitted, these limitations do not apply. The envelope accompanying the winning essay or report will be opened at a meeting of the Executive Council by the president, and the name of the successful contestant announced by him. The winning essay or report becomes the property of the Association and will be published in *The Military Surgeon*. Should the Executive Council see fit to designate any paper for "first honorable mention" the writer will be awarded life membership in the Association of Military Surgeons.

CONNECTICUT DEPARTMENT OF HEALTH

MORBIDITY REPORT FOR THE WEEK ENDING APRIL 9, 1927

Diphtheria	35	Chickenpox	80
Last week	20	Encephalitis, epidemic	1
Diphtheria bacilli carriers	18	German measles	17
Scarlet fever	101	Influenza	7
Last week	94	Mumps	30
Measles	95	Pneumonia, lobar	45
Last week	102	Septic sore throat	1
Whooping cough	36	Tuberculosis, pulmonary	32
Last week	36	Tuberculosis, other forms	4
Bronchopneumonia	32	Gonorrhea	33
Cerebrospinal meningitis	2	Syphilis	25

MORBIDITY REPORT FOR THE WEEK ENDING APRIL 16, 1927

Diphtheria	21	Conjunctivitis, infectious	7
Last week	35	Encephalitis, epidemic	1
Diphtheria bacilli carriers	22	German measles	10
Scarlet fever	85	Influenza	6
Last week	101	Mumps	28
Typhoid fever	1	Paratyphoid fever	1
Last week	0	Pneumonia, lobar	51
Measles	77	Septic sore throat	4
Last week	95	Tuberculosis, pulmonary	26
Whooping cough	26	Tuberculosis, other forms	5
Last week	36	Gonorrhea	3
Bronchopneumonia	33	Syphilis	10
Cerebrospinal meningitis	1	Chickenpox	44

NOTICES

THE APPOINTMENT OF DR. CLARA LOITMAN

DR. CLARA LOITMAN has been appointed Supervisor of Nutrition Classes for the School Department of the City of Boston. Her appointment followed a civil service examination in which Dr. Loitman received the highest rating.

She is instructor in Pediatrics at the Boston University School of Medicine, a member of the Pediatric Staff of the New England Hospital for Women and Children and of the Massachusetts Homeopathic Hospital, Conference Physician for the City of Boston, and a member of the New England Pediatric Society. She graduated from Tufts College in 1923.

Dr. Loitman is to continue her private practice.

The examination of sixty-five thousand children last year showed one thousand three hundred ninety-nine eligible for special observation and care. It was decided that something must be done to determine the advisability of having an especially trained person supervise the work. The appointment of a provisional temporary supervisor was made, and it was decided that a permanent appointment was warranted. The civil service examination referred to above followed this decision.

CERTAIN CHANGES OF DUTIES AND STATIONS OF COMMISSIONED AND OTHER OFFICERS OF THE UNITED STATES PUBLIC HEALTH SERVICE ORDERED BY C. C. PIERCE, ACTING SURGEON GENERAL

APRIL 6, 1927

Surgeon R. E. Dyer—Bureau orders of March 5, 1927, amended so as to direct him, before returning to station at Washington, D. C., from New York City, to proceed to Boston, Mass., in connection with biological control work of the Service—March 29, 1927.

BOARDS CONVENED

Boards of officers convened to meet at the following-named places April 5, 1927, to determine the physical eligibility of certain officers for promotion in the United States Coast Guard—March 30, 1927:

Detail for the board—New London, Conn.: Surgeon J. M. Gillespie, A. A. Surgeon H. A. Tyler.

Detail for the board—Stapleton, N. Y.: Surgeon L. E. Hooper, Assistant Surgeon K. K. Bryant.

Detail for the board—Boston, Mass.: Surgeon H. McG. Robertson, Assistant Surgeon R. B. Snively.

CHRONOLOGICAL LIST OF CHANGES OF DUTIES AND STATIONS OF COMMISSIONED AND OTHER OFFICERS OF THE UNITED STATES PUBLIC HEALTH SERVICE

APRIL 13, 1927

Acting Assistant Surgeon J. M. Brown—Directed to proceed from Norfolk, Va., to Washington, D. C., and return, to accompany a patient to St. Elizabeth's Hospital—April 4, 1927.

Sanitary Engineer Leslie C. Frank—Directed to proceed from Montgomery, Ala., to New York City, April 10, and return, in connection with studies of the sanitary control of milk—April 8, 1927.

Acting Assistant Surgeon E. C. Kading—Relieved from duty at Winnipeg, Canada, and assigned to duty at United States Immigration Station, Angel Island, Calif.—April 9, 1927.

Acting Assistant Surgeon George B. Story—Relieved from duty at Seattle, Wash., and assigned to duty at Winnipeg, Canada—April 9, 1927.

Assistant Surgeon General Thomas Farran, Jr.—Directed to proceed from Washington, D. C., to Cleveland, Ohio, April 11, and return, in connection with venereal disease control work—April 11, 1927.

Surgeon Joseph Goldberger—Directed to proceed from Washington, D. C., to Rochester, N. Y., and return, to attend a meeting of the Federation of American Societies for Experimental Biology to be held in that city April 14-16—April 11, 1927.

BOARD CONVENED

A board of officers convened to meet at Mobile, Ala., April 11, 1927, to determine the physical eligibility of a candidate for appointment as permanent machinist in the United States Coast Guard—April 5, 1927.

Detail for the board: Surgeon Frieuch Simpson, Assistant Surgeon W. H. Gordon.

APPOINTMENT

Langdon R. White appointed and commissioned in the grade of Assistant Surgeon, effective date of oath.

Official:

C. C. PIERCE, *Acting Surgeon General,*
United States Public Health Service.

UNITED STATES CIVIL SERVICE EXAMINATIONS

APPLICATIONS WILL BE RATED AS RECEIVED UNTIL
JUNE 30, 1927

Senior Medical Technician (Bacteriology)
Medical Technician (Bacteriology)
Senior Medical Technician (Roentgenology)
Medical Technician (Roentgenology)

The United States Civil Service Commission announces that hospitals of the United States Veterans' Bureau and the United States Public Health Service throughout the country are *urgently* in need of technicians as described above and that applications for the positions will be received until the close of business on June 30, 1927. Applications will be rated currently as they are received and certification of eligibles will be made as the needs of the service require.

Duties—The duties of Senior Medical Technicians (Bacteriology) require ability to identify the ordinary pathogenic micro-organisms; to make selections of pathologic tissues; to make examinations and an-

alyses of water, milk, urine, stomach contents and other body fluids; to make blood counts and complement fixation tests.

The duties of Medical Technicians (Bacteriology) require ability to make stains, cultures, identification of ordinary micro-organisms, urine analysis, and capacity for development.

Senior Medical Technicians (Roentgenology) must be competent in X-ray photography (including developing and solution preparation) and posturing, and trained in the ability to install, maintain, and repair X-ray apparatus; they must also be qualified by experience for supervisory duty in a large laboratory, or as the head of a smaller laboratory.

The duties of Medical Technicians (Roentgenology) require training similar that required of Senior Medical Technicians (Roentgenology), but their work will be under supervision.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the Board of United States Civil Service Examiners at the postoffice or custom house in any city.

REPORTS AND NOTICES OF MEETINGS

BOSTON MEDICAL HISTORY CLUB

The annual meeting of the Boston Medical History Club will be held in the Boston Medical Library, Friday, April 29th, 1927, at 8:15 P. M. The program will be as follows:

1. Surgical Instruments Designed by Lord Lister. By C. J. S. Thompson, M. B. E., communicated by Dr. J. W. Courtney. (Illustrated.)
2. Medical Ineuabula Contained in the Bulard Collection. By Mr. James Ballard.

HENRY R. VIETS, M.D., *Secretary.*

ESSEX SOUTH DISTRICT MEDICAL SOCIETY

On Thursday, May 5, 1927, the Censors will meet for examination of candidates, at Salem Hospital at 3:30 P. M.

Thursday, May 10—Annual Meeting at The Tavern, Gloucester. Dinner at 6:30 P. M. Ladies invited. Speaker, Mr. Arthur W. Gilbert, of Belmont, Commissioner of Agriculture for the Commonwealth of Massachusetts.

Mr. Gilbert was one of the three Americans appointed by President Coolidge to attend the conference on The League of Nations. His intimate knowledge of such figures as Mussolini will prove most interesting.

Subject, "Experiences in Europe with League of Nations." Illustrated with moving pictures.

Dancing will follow the speaking.

RALPH E. STONE, *Secretary.*

ESSEX NORTH DISTRICT MEDICAL SOCIETY

The Eighty-sixth Annual Meeting will be held in Shawsheen Manor, 349 N. Main St.,

Shawsheen Village (tel. Andover 860), Wednesday, May 4, 1927.

Dinner served at 12:30 sharp.

After the dinner, the business meeting will occur.

Following the meeting these papers will be presented:

1. "The Problem of Peptic Ulcer," by Sara M. Jordan, M.D., of Boston (45 minutes).
2. "Progress in Gynaecology," by Frank A. Pemberton, M.D., of Boston, Instructor in Gynaecology in Harvard University Medical School (45 minutes).

Discussions are invited.

Meeting of the Censors will be held at Hotel Bartlett, 95 Main St., Haverhill (tel. 3420), Thursday, May 5, at 2 P. M. sharp. Candidates should present their diplomas to the Secretary one week in advance. Roy V. Baketel, M.D., President.

J. FORREST BURNHAM, M.D., *Secretary*.
567 Haverhill St., Lawrence, Mass.

THE NORFOLK DISTRICT MEDICAL SOCIETY

The Censors of the Norfolk District Medical Society will hold a meeting for the examination of candidates May 5th, 1927, in the Roxbury Masonic Temple, 171 Warren Street, Roxbury at 4 P. M.

FRANK S. CRUICKSHANK, M.D., *Secretary*.
23 Bay State Road.

MEETING OF THE HARVARD MEDICAL SOCIETY

The next meeting of the Harvard Medical Society will be held as usual in the amphitheatre of the Peter Bent Brigham Hospital, May 3, 1927, at 8:15 P. M. The program follows:

1. Presentation of cases.
2. The Mechanics of Production of Fracture. Dr. Emmett Rixford, Professor of Surgery at the University of California. There will be lantern slides.

Medical students and physicians are cordially invited.

PROGRAM THIRTIETH ANNUAL MEETING OF THE AMERICAN GASTRO-ENTEROLOGICAL ASSOCIATION

This meeting will be held at Atlantic City, New Jersey, Monday and Tuesday, May 2 and May 3, 1927.

Headquarters and all sessions at Hotel Traymore.

The list of speakers is as follows:

MONDAY, MAY 2ND

Morning Session, 9:30 A. M.

- 1.—Presidential Address. Dr. Franklin W. White, Boston, Mass.

- 2.—Esophageal Carcinoma, With Report of Several Unusual Cases. Dr. Albert F. R. Andresen, Brooklyn, N. Y.
- 3.—Dysphagia and Its Causes as Revealed by Roentgen Ray. Dr. A. S. MacMillan, Boston, Mass.
- 4.—Motion Pictures of Gastric Motility in Medical Students. Dr. Carl J. Wiggers, Cleveland, Ohio (by invitation).
- 5.—Motion Pictures of Gastric and Intestinal Peristalsis. Walter C. Alvarez and (by invitation) Dr. A. Zimmermann, Rochester, Minn.
- 6.—Some New Observations on Gastro-Intestinal Functions During Immunity Reactions. Dr. Ludwig Kast, New York City.
- 7.—Syphilis of the Stomach. Dr. Alexius MeGlannan, Baltimore, Md.
- 8.—Fatal Infection of the Intestines With the Bacillus Aerogenes Lactis. Dr. Joseph Sailer and (by invitation) Dr. George M. Laws, Philadelphia, Pa.
- 9.—Surgical versus Other Treatment of Carcinoma of the Colon and Rectum. Dr. Jerome M. Lynch, New York City.

MONDAY, MAY 2ND

Afternoon Session, 2:30 P. M.

- 10.—Congenital Hypertrophic Pyloric Stenosis of Infancy in Adult Life. Dr. Burrill B. Crohn, New York City.
- 11.—Interpretation of Hunger-Pain as a Manifestation of Constitutional Derangements in Gastro-Duodenal Ulcer. Dr. Jacob Kaufmann, New York City.
- 12.—Observations on the Behavior of the Stomach and Duodenum in Cases of Duodenal Ulcer in the Presence of Pain. Dr. Malcolm Wilson, Ontario, Canada (by invitation).
- 13.—Pathology and Classification of Gastric Ulcers. A Motion Picture Film. Dr. Lewis Gregory Cole, New York City.
- 14.—The Ambulatory Method of Treating Peptic Ulcer. Dr. Ernest Clyde Fishbaugh, Los Angeles, Calif.
- 15.—A Study of the Acid-Base Balance of the Blood in Peptic Ulcer Cases Treated With Alkalis. Dr. V. C. Myers and (by invitation) Dr. W. E. Gatewood, Iowa City, Iowa.
- 16.—A Discussion of Medical Measures Used in the Treatment of Hematemesis. Dr. Walter A. Bastedo, New York City.

MONDAY, MAY 2ND 5 P. M.

Executive Session

Election of Members and Officers, Miscellaneous Business

MONDAY EVENING, MAY 2ND, 7:30 P. M.

Banquet

Belvedere Room, Hotel Traymore

The Historical Committee appointed at the last Monday evening meeting on May 3, 1926, will on this Thirtieth Anniversary Meeting of the Association, present its report, after the Banquet, through three speakers, as follows:

Dr. Dudley Roberts, New York City: Radiology of the Digestive Tract With Particular Reference to the Work of the American Gastro-Enterological Association of the Last Thirty Years.

Dr. James T. Pilcher, Brooklyn, N. Y.: Borderline Diseases Between Internal Medicine and Surgery With Particular Reference to the Contributions, Etc., of the American Gastro-Enterological Association.

Dr. John C. Hemmeter, Baltimore, Md.: Prospection Based on Circumspection and Retrospection of the Last Thirty Years.

Dr. David Riesman and Dr. Joseph Sailer, Philadelphia, Pa. Work of Thirty Years in General Internal Medicine.

TUESDAY MAY 3RD

Morning Session, 9:30 A. M.

- 17.—Diffuse Polyposis of the Colon. Report of Case. Dr. Sidney K. Simon, New Orleans, La.
- 18.—Studies on the Human Large Intestine: Protozoa, Their Detection and Incidence by Sigmoidoscope; Their Cultivation. Some Observations on the Bacteriology Thereof. Dr. Moses Paulson and Dr. Justin M. Andrews, Baltimore, Md. (by invitation).
- 19.—Demonstration of Amoebic Infection of Man. Dr. W. M. James, Panama, R. P. (by invitation).

SYMPOSIUM ON COLITIS

- 20.—Bacteriology of the Human Colon With Particular Reference to Non-Specific Ulcerative Colitis. Dr. John C. Torrey, Cornell University Medical College (by invitation).
- 21.—Colon Studies: IV. The Roentgen Diagnosis of Colitis (The Irritable Colon). Dr. John L. Kantor, New York City.
- 22.—The Medical Management of Chronic Ulcerative Colitis, With a Statistical Study of 200 Cases. Dr. J. A. Bargen, Rochester, Minn. (by invitation).
- 23.—Ulcerative Colitis. Dr. Horace W. Soper, St. Louis, Mo.
- 24.—Operative Treatment of Chronic Ulcerative Colitis. Dr. Daniel Fiske Jones, Boston, Mass. (by invitation).

TUESDAY, MAY 3RD

Afternoon Session, 2:30 P. M.

- 25.—Bile Salt and Bile Pigment Metabolism in Jaundice. Dr. Howard F. Shattuck and (by invitation) Dr. John A. Killian, New York City.
- 26.—On Hepatography. Dr. Max Einhorn, New York City.
- 27.—A Clinical Valuation of Cholecystography by the Oral Method of Administration of Tetraiodophenolphthalein. Dr. John H. King and (by invitation) Dr. Lay Martin, Baltimore, Md.
- 28.—Some Interesting Experiences With Oral Cholecystography Based on Studies of Over 500 Cases. Dr. William H. Stewart, New York City.
- 29.—Advantages and Limitations of Cholecystographic Diagnosis; A Clinical Appraisal. Dr. George B. Eusterman, Rochester, Minn.
- 30.—Catarrhal Obstruction of the Cystic Duct. Dr. B. B. Vincent Lyon and (by invitation) Dr. W. A. Swalm, Philadelphia, Pa.
- 31.—The Value of Diagnostic Methods in Proven Gall Bladder Disease. Dr. George Morris Piersol and (by invitation) Dr. H. L. Bockus and Dr. Harry Shay, Philadelphia, Pa.

TO BE READ IF TIME PERMITS

- 32.—Enigmas and Axioms of Protein Digestion and Intoxication: From the Clinician's Viewpoint. Dr. Henry J. Bartle, Philadelphia, Pa.
- 33.—Some Observations on the Incidence of Diabetes Mellitus. With Remarks on Certain of Its Etiological Factors. Dr. Julius Friedenwald and Dr. Theodore H. Morrison, Baltimore, Md.
- 34.—The Liver Glycogen and Insulin Action. Dr. John C. Hemmeter, Baltimore, Md.
- 35.—Chronic Ulcerative Colitis. Dr. Joseph W. Larimore, St. Louis, Mo.
- 36.—The Reaction of Body Cells to Mineral Salts. Dr. Fenton B. Turek, New York City.

The Medical profession is cordially invited. Apply to Dr. John Bryant, 282 Berkeley Street, Boston, for detailed information.

AMERICAN CLIMATOLOGICAL AND
CLINICAL ASSOCIATION

THIS Association will conduct its Forty-Fourth Annual Meeting at White Sulphur Springs, W. Va., Thursday, Friday, and Saturday, May 19, 20, 21, 1927.

President: Walter A. Baetjer, M.D., Baltimore, Md.
Vice-Presidents: John A. Lichty, M.D., Clifton

Springs, N. Y.; George Morris Piersol, M.D., Philadelphia, Pa.

Secretary and Treasurer: Arthur K. Stone, M.D., Framingham Centre, Mass.

Recorder: Cleaveland Floyd, M.D., Boston, Mass.
Council: Charles W. Richardson, M.D., Washington, D. C.; Gerald B. Webb, M.D., Colorado Springs; Lawrence Litchfield, M.D., Pittsburgh; J. Woods Price, M.D., Saranac Lake, N. Y.; John B. Hawes, 2nd, M.D., Boston; Gordon Wilson, M.D., Baltimore; George W. Norris, M.D., Philadelphia; David R. Lyman, M.D., Wallingford, Conn.

PROGRAM OF SCIENTIFIC SESSIONS

Hotel Greenbrier, White Sulphur Springs, W. Va.

THURSDAY, MAY 19, 1927, 9.30 A. M.

President's Address. Dr. Walter A. Baetjer.

MEMORIAL NOTICES

Dr. Glentworth R. Butler, by Raymond Clarke.
Dr. Herbert Madison Rich, by Charles G. Jennings.

PAPERS

- 1—Sub-acute Endocarditis with the Blood Picture of Lymphatic Leukemia. Dr. A. H. Gordon, Montreal.
- 2—Clinical Observations on Gallop Rhythm. Dr. Paul D. White, Boston.
- 3—Anatomy and Physiology of Cervical Sympathetic System and Its Relation to Angina. Dr. Philip K. Brown, San Francisco.
- 4—Rupture of the Heart. Dr. E. A. Locke, Boston.
- 5—Electrocardiogram in Relation to Prognosis. Dr. H. G. Schleifer, Pittsburgh.
- 6—Benign Cerebral Complications of Head Infections. Dr. M. C. Pincoffs, Baltimore.
- 7—Group Clinics and Group Practice. Dr. W. C. Klotz, New York.
- 8—Laboratory and Clinical Methods. Dr. H. R. M. Landis, Philadelphia.

FRIDAY, MAY 20, 1927, 9.30 A. M.

Hotel Greenbrier

- 9—Supraglottic Method of Injection of Bronchi with Iodized Oil. Dr. Stuart Pritchard, Battle Creek.
- 10—Some Clinical Aspects of Chronic Bronchial Infections. Dr. R. A. Cooke, New York.
- 11—Massive Atelectasis (Collapse) Associated with Chronic Pulmonary Inflammations. Dr. E. N. Packard, Saranac Lake.
- 12—Relation of Upper Respiratory Tract Infections to Chronic and Sub-acute Infections of Lungs. Dr. J. B. Hawes, 2nd, Boston.
- 13—Bronchiectasis—Report of Cases Treated by Various Methods. Dr. J. J. Lloyd, Rochester, N. Y.
- 14—Choice of Cases for Operation from Clinician's Point of View. Dr. J. W. Price, Saranac Lake.
- 15—Operative Collapse Therapy. Dr. Ralph C. Matson, Portland, Ore.
- 16—Complete Reexpansion After Artificial Pneumothorax. Dr. Paul H. Ringer, Asheville.

SATURDAY, MAY 21, 1927, 9.30 A. M.

Hotel Greenbrier

- 17—Interpretation of Clinical Pulmonary Tuberculosis in Terms of Allergy. Dr. F. M. Pottenger, Monrovia, Calif.
- 18—Healing of Pulmonary Cavities. Dr. J. B. Amberson, Jr., New York.
- 19—The Air Bath. Dr. G. B. Webb, Colorado Springs.
- 20—Treatment of Late Neurosyphilis. Dr. Albert Keidel, Baltimore.

21—Water Balance in the Treatment of Disease. Dr. J. S. McLester, Birmingham.

22—Polycystic Disease of the Kidneys. Dr. G. M. Piersol, Philadelphia.

23—Diagnosis and Treatment of Non-tuberculous Bronchopulmonary Suppurative Lesions. Dr. Frederick T. Lord, Boston.

24—Visceroptosis and Its Treatment with High Fat Diet. Dr. Thomas Klein, Philadelphia.

SOCIETY MEETINGS

DISTRICT MEDICAL SOCIETIES

Essex North District Medical Society

Wednesday, May 4, 1927—Annual meeting. Shawheen Manor, 349 North Main Street, Shawheen Village.

Thursday, May 5, 1927—Censors meet for examination of candidates at Hotel Bartlett, 95 Main Street, Haverhill, at 2 P. M.

Essex South District Medical Society

Thursday, May 6, 1927—Censors meet for examination of candidates at the Salem Hospital, 8:30 P. M.

Wednesday, May 11, 1927—Annual meeting. The Tavern, Gloucester. Speaker and subject to be announced later.

Middlesex South District Medical Society

The Censors of the Middlesex South District of the Massachusetts Medical Society will meet on May 5 at 4 P. M. at the Colonial Club, 20 Quincy Street, Cambridge, for the examination of candidates.

STEPHEN M. BIDDLE, Secretary.

Norfolk District Medical Society

Below are the proposed meetings of the Norfolk District for the remainder of the year. Minor changes may be made in case of necessity.

May 19, 1927—Annual meeting. Details of meeting to be announced.

Notices of meetings must reach the JOURNAL office on the Friday preceding the date of issue in which they are to appear.

BOOK REVIEWS

Nephritis. By HERMAN ELWYN, M.D. New York. The Macmillan Company. 1926.

This book is well written, readable and easily understood. Each chapter completely covers a particular phase of the subject with references to the literature at the close of the chapter, thus making the book a handy reference manual.

It is not the purpose of the reviewer to take up each chapter in detail. In general the work constitutes a brief but comprehensive survey of a difficult subject and should be useful to both students and practitioners. The opening chapter on Renal Physiology deserves comment because of its clearness and simplicity. No reader can fail to understand the general principles of kidney physiology. On the other hand, in the chapter on Renal Insufficiency, the general practitioner may be in doubt as to the most useful tests to try, and as to how he can carry on such tests with very modest laboratory equipment. Simplification of the methods of performing the renal function tests described would add to the value of this chapter.

The author's classification of renal disorders is based on injury to the Glomeruli, Tubules or Vessels, under the general heading of (1) Glomerular Nephritis, (2) Nephrosis or Tubular Degenerative Nephritis, (3) Arteriosclerotic Diseases of the Kidney. The classification is long and somewhat complicated. One doubts the ability to fit actual clinical material into a scheme of this sort. Also the author groups all tubular

lesions under the general heading of Nephrosis which includes in addition to the so-called Lipoid Nephrosis described by Epstein, the kidney of pregnancy, the amyloid kidney and the bichloride kidney. The author explains the pathogenesis of the kidney of pregnancy on the basis of general arterial spastic contraction. He suggests that an increased irritability of the neuro muscular apparatus for vasoconstriction both central and peripheral is probably present in a mild degree in every case of pregnancy, and that only in some cases does it become intense enough to cause a general arterial spastic contraction which results in renal and nervous symptoms. The explanation is ingenious and not without some support. The weak point lies in the attempt to explain why some cases develop a general arterial spasm and others do not.

The last few chapters discuss the general subject of Renal Arteriosclerosis. The author holds to the view that in renal arteriosclerosis there are two forms of renal diseases, both associated with hypertension; the one with a long benign course without demonstrable renal insufficiency corresponding to the disease known as benign hypertension or hyperpiesis; the second with a malignant course with renal insufficiency, corresponding to the contracted kidney of the old clinicians. The point is that in both conditions there is more or less damage to the blood vessels of the kidney.

In general the subject matter has been handled in a clear and common sense manner. Clinical symptoms have been carefully and adequately described and methods of treatment clearly indicated.

Heliotherapy, by A. ROLLIER, M.D. (Oxford Medical Publications.)

This book should be read carefully and seriously by every practitioner of medicine whether general practitioner or surgeon or specialist. The foreword by Sir Henry Gauvain and another by Dr. C. W. Saleeby should likewise be given careful perusal.

This volume, the second edition of Rollier's work, contains 15 chapters with an elaborate bibliography, with some 300 pages and innumerable beautiful and striking photographs and x-ray plates. The chapters are divided as follows:

I, Historical Outline; II, Experimental Contributions; III, Climatology; IV, Dosage, Technique and Clinical Results; V, Heliotherapy and Work; VI, General Characteristics of Solar Action; VII, Statistics; VIII, Radiological Control of the Results; IX, Heliotherapy and Convalescence; X, Prophylaxis; XI, Heliotherapy of Non-Tubercular Affections; XII, Contra-indica-

tions to Sun Cure; XIII, The Supporting Action of Actinotherapy; XIV, Conclusion; XV, Literature.

It is impossible in such a short review to present the details of this most valuable and striking addition to our literature but even if one has not time to read the text a glance at the pictures alone will prove a revelation as to what sunlight can do.

In addition to speaking of heliotherapy alone Rollier devotes a chapter to occupational therapy, work treatment, which is so necessary to enable patients who must stay in bed and who are otherwise closely confined to carry on. His remarks on diet are interesting and illuminating. The theory that he goes on is that a patient taking sunlight treatment is living under the same conditions as those who dwell in the tropics and should eat accordingly. Therefore, meat is extremely limited, red meats totally prohibited, fruit is given twice a day and at other intervals and the mainstay of diet consists of cereals and vegetables. He puts the various lamps and other forms of artificial sunlight where they belong, namely, as a very minor factor and only to be used in intensive work and as the merest adjuvant to real sunlight. I would like to emphasize his remarks as it seems to me now that no practitioner of medicine considers his equipment complete unless he has some form of lamp to give artificial sunlight while the average physician forgets that the best and by all means the cheapest means of producing results in this direction is by the real article.

He summarizes concisely and well the contra-indications of sunlight treatment which in the main include chronic valvular heart disease and all forms of myocarditis, nephritis of all forms and pulmonary tuberculosis except the chronic fibroid types. His results, as shown by figures, by x-ray plates, by the statistics since 1903, are so remarkable that it is hard to see how the orthopedic surgeon or indeed the general surgeon can operate on any case of tuberculosis, osteo-myelitis, tuberculous glands or other similar conditions with a clear conscience until he has given the patient the benefits of detailed and prolonged heliotherapy. While it is to be conceded that results at sea level, particularly in our larger cities, will not be as striking as those to be obtained in the rarefied atmosphere of the Alps or elsewhere, with faithful attention to details they will be striking none the less.

Dr. Rollier emphasizes the danger of too great an enthusiasm both on the part of physicians and patients in taking up sunlight treatment. There must be the greatest of individualization and utmost faithful attention to details, otherwise the results will be disastrous.

I cannot recommend this book too heartily to the entire medical profession.